United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Tennessee Agricultural Experiment Station, Bedford County Board of Commissioners, Tennessee Department of Agriculture, Tennessee Valley Authority, and Bedford County Soil Conservation District

Soil Survey of Bedford County, Tennessee

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How to Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

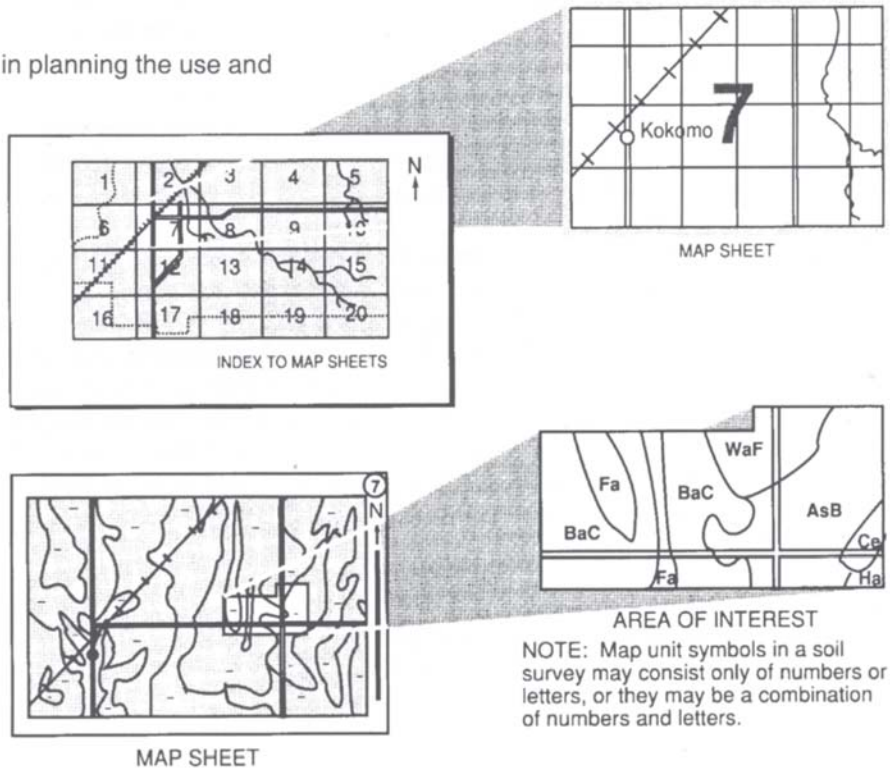
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) leads the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1980-85. Soil names and descriptions were approved in 1995. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This survey was made cooperatively by the Natural Resources Conservation Service, the Tennessee Agricultural Experiment Station, the Bedford County Board of Commissioners, the Tennessee Department of Agriculture, and the Tennessee Valley Authority. The survey is part of the technical assistance furnished to the Bedford County Soil Conservation District.

Cover: An area of the Dellrose-Mimosa-Hawthorne general soil map unit on high knobs, narrow ridges, and long side slopes. Most hillsides are used for pasture and hay.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

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Issued 2003

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Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations that affect various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

James W. Ford
State Conservationist
Natural Resources Conservation Service

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Soil Survey of
Bedford County, Tennessee

By Charles E. McCroskey, Natural Resources Conservation Service

Fieldwork by Charles E. McCroskey, Stephen B. Feldman, and John G. Gibi, Natural Resources Conservation Service, and Andrew K. Brown and Kaye R. Petty, Bedford County Soil Conservation District

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Tennessee Agricultural Experiment Station, the Bedford County Board of Commissioners, the Tennessee Department of Agriculture, the Tennessee Valley Authority, and the Bedford County Soil Conservation District

BEDFORD COUNTY is in the south-central part of Tennessee (fig. 1). Shelbyville is both the county seat and the principal city. It hosts the annual Tennessee Walking Horse National Celebration. The Duck River runs through the city as it meanders east to northwest through the county.

Bedford County has a total land area of 304,200 acres, or 475 square miles. Roughly square in shape, it averages 22 miles east to west and 21.5 miles north to south. Its northern boundary divides the watersheds of the Duck and Stones Rivers. Its southern boundary divides the watersheds of the Duck and Elk Rivers.

Bedford County lies in two physiographic areas of the Tennessee Section of the Valley and Ridge province of the Appalachian Highlands. Most of the county lies in the inner and outer parts of the Nashville Basin. The southern and eastern edges of the county lie in the Highland Rim.

This soil survey updates the survey of Bedford County published in 1947 (*5*). It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the County

This section gives general information about the county. It describes climate, early history, transportation facilities, geology, water resources, and mineral resources.

Settlement and Population

An act of the Tennessee General Assembly created Bedford County on December 3, 1807. The county was named in honor of Thomas Bedford, Jr., a soldier in the Revolutionary War (*4*). The county comprised roughly the area south of Rutherford County to the state line and from Franklin County on the east to Maury County on the west. In 1809, Lincoln and Moore Counties were created from Bedford County. In 1810, the land Clement Cannon donated for a new county seat was laid off into lots and auctioned off. Shelbyville was named in honor of Col. Isaac Shelby, who fought in the Battle of King's Mountain. In 1836-37, the creation of Coffee and Marshall Counties redefined the boundary of Bedford County.

Settlement of the area now known as Bedford County began in 1805-6. At that time the area comprised nearly impenetrable, dense canebrakes and vast forests. The early settlers were of English, Scottish, and Irish descent, mainly from North Carolina. In 1810, the population of Bedford County was 8,242. In 1830, it was 30,396, making Bedford County the most populous in Tennessee (*3*).

Natural Resources

Streams and waterways, woodland and wildlife, soils, and mineral deposits are the most important natural resources of Bedford County. Water for

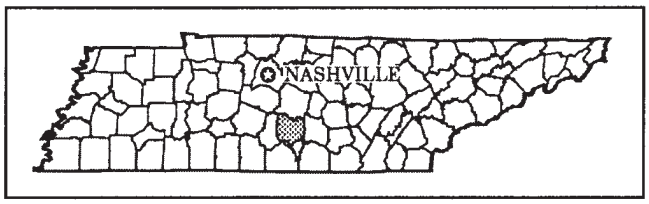

Figure 1.—Location of Bedford County in Tennessee.

households and livestock is adequate throughout the entire county. In the Highland Rim and in the outer part of the Nashville Basin, ground water flows through well-developed underground channels and emerges as springs. Cascade Springs, the largest of its kind in the area, is located a few miles east of Normandy. It supplies water for Wartrace, Normandy, and Bell Buckle. Most drinking water in the inner part of the Nashville Basin is derived from wells 40 to 200 feet deep. Water for livestock is obtained from perennial streams and farm ponds throughout the county. Bedford and Normandy Lakes provide recreation, flood control, and enhancement of the quality of life.

About 35 percent of Bedford County is cutover woodland. Second-growth tree species include white and red oaks, hickory, yellow poplar, hackberry, elm, and locust on the better soils. Eastern redcedar and mixed hardwoods are on the very rocky or shallow soils. Besides wildlife resources, woodland provides lumber, wood for making fenceposts and pencils, and firewood. Much of the woodland is generally unsuitable for other land uses.

The important mineral resources include rock phosphate, chert, and high grade limestone. Brown phosphate is found in the limestone of the outer part of the Nashville Basin, especially in the Bigby Formation. It is a valuable mineral resource usable as fertilizer. Beds of blocky, yellow chert from the Fort Payne Formation provide good quality road building material. The high grade limestone of the inner part of the Nashville Basin is a source of gravel and agricultural lime. Chattanooga Black Shale is a highly carbonaceous, hard shale containing small amounts of uranium. Shale oil, though extractable, generally has not been economical.

Industry and Transportation

Shelbyville is the center of the industrial complex of Bedford County. A leading producer of pencils and related goods, it is called the "Pencil City." It has more than 40 manufacturers of pencils and pencil products, automotive goods, clothing, tools and machinery, and horse supplies. These manufacturers have a total work force of about 12,000.

Other major industries include food processing, banking, local retailing, and agribusiness. The Tennessee Walking Horse National Celebration, held annually in Shelbyville, attracts exhibitors and visitors from throughout the United States. The main farm enterprises include livestock and crop production. Most cattle and hogs produced in the county are marketed in Nashville. The rest are sold either to local processors or consumed on the farm. Poultry is sold to a local processing plant. Dairy products are processed at large plants in Nashville and Chattanooga. Corn, wheat, and soybeans are sold to grain elevators and mills in Nashville, Columbia, Chattanooga, Lebanon, and Tullahoma in Tennessee and in Huntsville, Alabama. Tobacco is sold primarily in Columbia and Fayetteville.

An excellent network of Federal, State, and local highways serves the county. A secondary road system facilitates farm products moving to local markets. Five local freight terminals are maintained in Shelbyville. They provide direct service to major distribution points. Daily bus service also provides shipping and transportation. Shelbyville Municipal Airport is another important link for commuters between Shelbyville and Chattanooga, Nashville, and Knoxville.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Shelbyville in the period 1951 to 1984. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 41 degrees F and the average daily minimum temperature is 30 degrees. The lowest temperature on record, which occurred on January 30, 1966, is -16 degrees. In summer, the average temperature is 77 degrees and the average daily maximum temperature is 89 degrees. The highest recorded temperature, which occurred on July 28, 1952, is 107 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 54 inches. Of this, 26 inches, or 45 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the

rainfall in April through September is less than 23 inches. The heaviest 1-day rainfall during the period of record was 6.69 inches on August 29, 1963. Thunderstorms occur on about 54 days each year, and most occur in summer.

The average seasonal snowfall is about 7 inches. The greatest snow depth at any one time during the period of record was 9 inches. On the average, 3 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 65 percent of the time possible in summer and 45 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in spring.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot

predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by two or three kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes.

Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. In the detailed soil map units, these latter soils are called inclusions or included soils. In the general soil map units, they are called soils of minor extent.

Most inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil map because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soils on the landscape.

The presence of inclusions in a map unit in not way diminishes the usefulness or accuracy of the soil data. The objective of soil mapping is not to delineate pure taxonomic classes of soils but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but onsite investigation is needed to plan for intensive use in small areas.

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another, but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soil Descriptions

1. Talbott-Bradyville-Rock Outcrop

Undulating and rolling, well drained soils that have a clayey subsoil and areas of Rock outcrop; on uplands in the inner part of the Nashville Basin

This map unit consists of rolling uplands, numerous rock outcrops and sinkholes, and broad, nearly level flood plains. It is scattered throughout the inner part of the Nashville Basin. Slopes range from 2 to 15 percent. The bedrock is massive limestone.

About 60 percent of the acreage of this unit has been cleared. Most cleared areas are used for pasture and hay. A few acres of Bradyville soils are used for row crops or are idle. The scattered, uncleared areas are in mixed hardwoods and cedar.

This unit makes up about 22 percent of the county. It is about 50 percent Talbott soils, 15 percent Bradyville soils, 11 percent Rock outcrop, and 24 percent soils of minor extent.

Talbott soils formed in clayey residuum derived from limestone. Typically, the surface layer is brown silt loam about 4 inches thick. The subsoil is yellowish red clay. Bedrock is between depths of 20 and 40 inches.

Bradyville soils formed in a thin silty mantle of loess or old alluvium over clayey residuum derived from limestone. Typically, the surface layer is brown silt loam about 6 inches thick. In the upper part the subsoil is yellowish red silty clay loam. In the middle and lower parts it is red clay. Bedrock is between depths of 40 and 60 inches.

Rock outcrop consists of outcrops of massive limestone. The outcrops range from a few to several hundred feet in size. They extend from ground level to a height of about 3 feet.

Of minor extent in this map unit are Barfield, Nesbitt, Capshaw, Colbert, Gladeville, and Lomond soils on uplands and stream terraces. Also of minor extent are Eagleville, Godwin, Lynnville, Agee, and Tupelo soils along drainageways and in depressions on uplands.

Depth to bedrock, rock outcrops, limited available water capacity, and high clay content limit use of the soils in this unit to trees, pasture, and hay. In a few areas Bradyville soils are used for row crops.

These soils are suited to use as woodland. Oak, hickory, hackberry, elm, locust, and eastern redcedar are dominant. Productivity is moderate because of differences in the soils. In some areas rock outcrops restrict use of logging equipment. In some areas erosion is a hazard on logging roads and skid trails.

Rock outcrops, depth to bedrock, high clay content, and moderate or high shrink-swell potential are the main limitations to use of these soils for urban and residential development.

2. Talbott-Bradyville-Capshaw

Undulating and rolling, well drained and moderately well drained soils that have a clayey subsoil; on uplands, foot slopes, depressions, and stream terraces in the inner part of the Nashville Basin

This map unit consists of undulating uplands, broad valleys of terraces and flood plains, and karst topography (fig. 2). Most areas of this unit are in the central, north-central, and northwestern parts of the

county. Slopes are mostly 2 to 5 percent, but the range is 0 to 12 percent. The bedrock is massive limestone.

About 80 percent of the acreage of this unit has been cleared. Most cleared areas are used for pasture, hay, and row crops. A few small areas are idle. The scattered, uncleared areas are in mixed hardwoods and cedar.

This unit makes up about 12 percent of the county. It is about 45 percent Talbott soils, 16 percent Bradyville soils, 16 percent Capshaw soils, and 23 percent soils of minor extent.

Talbott soils formed in residuum derived from limestone. Typically, they have a surface layer of brown silt loam about 4 inches thick. The subsoil is yellowish red, firm clay. Bedrock is at a depth of 20 to 40 inches.

Bradyville soils formed in a thin cap of loess or alluvium over residuum derived from limestone. Typically, the surface layer is brown silt loam about 8 inches thick. In the upper part the subsoil is yellowish red silty clay loam. In the middle and lower parts it ranges from red to yellowish brown, firm clay. Bedrock is at a depth of 40 to 60 inches.

Capshaw soils are moderately well drained. They formed in alluvium or in both alluvium and the underlying residuum derived from limestone. Typically, the surface layer is brown silt loam about 7 inches thick. In the upper part the subsoil is yellowish brown clay. In the lower part it is yellowish brown to olive brown clay mottled in shades of gray, red, yellow, and brown.

Of minor extent in this map unit, on uplands, are Nesbitt, Lomond, Barfield, Colbert, and Gladeville soils and areas of Rock outcrop. Also of minor extent, on foot slopes, in depressions, and along streams, are Godwin, Eagleville, Lynnville, Agee, and Tupelo soils.

The hazard of erosion, high clay content of the subsoil, limited available water capacity, and steep slopes limit use of the soils in this unit for cultivated crops. These soils tend to be droughty in mid and late summer and crop yields can be reduced. Erosion is a major problem in areas with short, steep slopes. When the soils are eroded, the clayey subsoil is exposed at the surface, and productivity is reduced.

These soils are suited to use as woodland. Oak, hickory, elm, locust, hackberry, and eastern redcedar are dominant. Productivity is moderate or high.

Slope, shrink-swell potential, high clay content, low strength, and depth to bedrock are the main limitations to use of these soils for urban and residential development.

Figure 2.—An area of the Talbott-Bradyville-Capshaw general soil map unit. Talbott soils are in the right foreground and Bradyville soils are in the right background. The land is on Capshaw soils.

3. Capshaw-Godwin-Agee

Nearly level to undulating, poorly drained to moderately well drained soils that have a clayey subsoil; on flood plains, stream terraces, and foot slopes throughout the Nashville Basin

This map unit consists of broad areas of nearly level and undulating soils that rise a few feet above relatively wide flood plains. Slopes range from 0 to 5 percent. Most areas of this unit are in the northwest quarter of the county. Some areas of this unit are along major tributaries of the Duck River. In a few places level-bedded limestone outcrops are on the surface.

About 80 percent of the acreage of this unit has been cleared. In cleared areas it is used for row crops, pasture, or hay. The wooded areas generally are small woodlots on farms. They comprise oak, hickory, elm, hackberry, and other water-tolerant species.

This unit makes up about 8 percent of the county. It is about 40 percent Capshaw soils, 38 percent Godwin soils, 15 percent Agee soils, and 7 percent soils of minor extent.

Capshaw soils are moderately well drained and nearly level and undulating. They are on stream terraces, foot slopes, and in depressions on uplands. The surface layer is brown silt loam about 7 inches thick. The subsoil is yellowish brown or strong brown silty clay loam and clay mottled in shades of gray below a depth of 20 inches. The substratum is olive brown clay mottled in shades of gray.

Godwin soils are somewhat poorly drained. They are on flood plains and low stream terraces. Typically, the surface layer is dark brown silt loam. The subsurface layer is very dark gray or very dark grayish brown silty clay or clay. The subsoil is dark grayish brown or grayish brown clay.

Agee soils are poorly drained. They are on flood plains or low stream terraces, in depressions, or at the base of foot slopes. The surface layer is dark brown silty clay loam about 9 inches thick. The subsoil is very dark gray to dark grayish brown silty clay or clay.

Of minor extent in this map unit are Bradyville, Lomond, Nesbitt, Talbott, and Gladeville soils on uplands. Also of minor extent, on low stream terraces and on flood plains, are Egam, Tupelo, Eagleville, and Arrington soils.

Wetness, flooding, high clay content, and the hazard of erosion in undulating areas are the main limitations to use of these soils for cultivated crops. Good management practices are needed. They include drainage where suitable drainage outlets are available and minimum tillage or double-cropping to reduce possible scouring of flood-prone areas and to control erosion in undulating areas. These practices can increase productivity and diversify agricultural use. Row crops, pasture, and hay are suited. Some areas that tend to pond or that are subject to late season flooding are better suited to water-tolerant tree species.

These soils are suitable for trees. Oak, hickory, locust, hackberry, and other mixed hardwoods are dominant. Wetness and flooding limit logging operations to drier periods in late summer and early fall.

Wetness, flooding, clayey subsoil, and shrink-swell potential are the main limitations to use of these soils for urban and residential development.

4. Gladeville-Talbott-Rock Outcrop

Undulating and rolling, well drained soils that have a clayey subsoil and areas of Rock outcrop; on undulating and rolling uplands; in the outer part of the Nashville Basin

This map unit consists of nearly bare, rocky areas called "glades" and massive limestone outcrops. It is in the west-central part of the county. Slopes are dominantly 2 to 12 percent, but range from 2 to 20 percent.

Most areas have karst topography and numerous, short drains ending in sinkholes. The bedrock in most areas of this unit is flaggy, level-bedded limestone.

About 15 percent of the acreage of this unit has been cleared. Most cleared areas of Talbott soils and small areas of soils of minor extent are used for pasture, homesites, or gardens. The uncleared areas are mainly in eastern redcedar and a few scattered hickory, hackberry, and locust. Pricklypear cactus, lichens, and moss are common groundcover in these areas; grass grows in openings where the soils are deeper.

This unit makes up about 5 percent of the county. It is about 40 percent Gladeville soils, 30 percent Talbott soils, 20 percent Rock outcrop, and 10 percent soils of minor extent.

Gladeville soils formed in residuum derived from flaggy limestone. Typically, the surface layer is very dark grayish brown to dark brown flaggy silty clay loam. The substratum is dark brown flaggy clay or silty clay. Depth to bedrock ranges from 3 to 10 inches.

Talbott soils formed in residuum derived from limestone. The surface layer is brown silt loam. The subsoil is yellowish red clay. Depth to bedrock ranges from 20 to 40 inches. In some areas these soils are in small areas between rocks. In other areas the soils cover a few acres and have only very few rock outcrops.

Rock outcrop consists of limestone that extends above the surface to a height of 1 to 3 feet. In most places, however, these outcrops are level with the surface and do not obstruct use of machinery. Spacing of the outcrops is variable. In a few places they are widely spaced. In other areas they cover as much as 90 percent of the surface.

Of minor extent in this map unit are scattered areas of Bradyville, Barfield, and Lomond soils. Also of minor extent are Braxton and Harpeth soils in small areas near the Duck River and Arrington, Lynnville, Eagleville, and Godwin soils along drainageways and in the bottom of sinks.

Limited available water capacity, rock outcrops, depth to bedrock, high clay content, and low productivity severely limit use of the soils in this unit for cultivated crops. Talbott soils and some soils of minor extent are suited to pasture and hay. Gladeville soils are poorly suited to pasture and hay.

These soils are poorly suited to use as woodland. Gladeville soils are very shallow and have low available water capacity. They support only slow growing or poor quality trees. Talbott soils and soils of minor extent are better suited to use as woodland.

Shrink-swell potential, depth to bedrock, rock outcrops, low strength, and high clay content are the main limitations to use of these soils for urban and residential development.

5. Harpeth-Braxton-Arrington

Nearly level to hilly, well drained soils that have a loamy or clayey subsoil; on flood plains and stream terraces

This map unit consists of nearly level flood plains, undulating, low and intermediate stream terraces, and undulating to steep, high terraces. It is along the Duck River and its larger tributaries, which flow east to west across the county. Slopes, generally, are 0 to 12 percent, but range to 45 percent. Many high terraces are karst. The unit is underlain by limestone bedrock; however, the soils formed in alluvium which ranges to several feet thick.

About 85 percent of this unit has been cleared and is used for row crops, hay, and pasture. Uncleared areas consist mainly of steep hillsides, small isolated areas, and areas of wet or rocky soils of minor extent.

This unit makes up about 9 percent of the county. It is about 40 percent Harpeth soils, 25 percent Braxton soils, 20 percent Arrington soils, and 15 percent soils of minor extent.

Harpeth soils are on stream terraces, on foot slopes, and along small drainageways above Arrington soils. Typically, the surface layer is brown silt loam. The subsoil is strong brown silty clay loam to a depth of 40 inches, and ranges to yellowish brown to yellowish red silty clay loam to clay below a depth of 40 inches. Rock fragments range to 15 percent above a depth of 40 inches to 40 percent below that depth.

Braxton soils are on high stream terraces above Arrington and Harpeth soils. Typically, the surface layer is dark brown silt loam. The subsoil is yellowish red silty clay and clay.

Arrington soils are on flood plains and in depressions. Typically, the surface layer is dark brown silt loam. The subsoil is dark brown or dark yellowish brown silt loam or silty clay loam.

Of minor extent in this map unit are Talbott, Barfield, Hillwood, Gladeville, Colbert, Bradyville, Mimosa, and Ashwood soils along river bluffs or on steeper hillsides of high terraces. Also of minor extent are Lynnville, Godwin, Egam, Tupelo, and Nesbitt soils on flood plains and low terraces.

Slope, the erosion hazard on terraces, and flooding in winter and spring on flood plains are the major concerns for cultivated crops on the soils in this unit. In most areas of the soils double cropping or no-till is used to control erosion. Corn, wheat, soybeans, and some sorghum are grown for silage and grain. Liming and fertilizing annually help to maintain soil productivity. Overgrazing is the main concern in pasture management because of the increased erosion hazard and weed competition.

These soils are well suited to use as woodland. Oak, hickory, and other mixed hardwoods are dominant. On some soils of minor extent, productivity is lower. Steep slopes and flooding in winter and early spring restrict use of logging equipment. In some steeper areas erosion is a hazard on logging roads and skid trails.

Flooding, low strength, slow permeability, slope, and high clay content are the main limitations to use of these soils for urban development.

6. Mimosa-Ashwood-Rock Outcrop

Undulating to steep, well drained soils that have a clayey subsoil and areas of Rock outcrop; on uplands in the outer part of the Nashville Basin

This map unit consists of rolling uplands, steep hillsides, narrow to broad flood plains and stream terraces, and numerous rock outcrops and sinkholes. Most of the unit is adjacent to higher, cherty hillsides along the eastern and southern boundaries of the county. Several areas of the unit are on isolated hills,

or knobs, in the central part of the county. Slopes are dominantly 5 to 20 percent, but the range is 2 to 35 percent. The bedrock is massive, phosphatic limestone.

About 60 percent of the soils in this unit have been cleared. In most cleared areas they are used for pasture or hay. In a few small areas the major soils and some areas of the soils of minor extent are used for row crops or are idle. The uncleared areas are in mixed hardwoods and cedar.

This unit makes up about 28 percent of the county. It is about 32 percent Mimosa soils, 25 percent Ashwood soils, 10 percent Rock outcrop, and 33 percent soils of minor extent.

Mimosa soils formed in residuum derived from phosphatic limestone. Typically, the surface layer is brown silt loam about 6 inches thick. The subsoil is yellowish brown to strong brown, firm clay. Bedrock is between depths of 40 and 60 inches.

Ashwood soils formed in residuum derived from phosphatic limestone. Typically, the surface layer is very dark grayish brown silt loam about 6 inches thick. The upper part of the subsoil is very dark brown to dark brown, firm clay. The lower part of the subsoil is dark yellowish brown, firm clay. Bedrock is between depths of 20 and 40 inches.

Rock outcrop consists of massive limestone. It is in areas that can range to several hundred square feet in size. It extends from ground level to a height of 3 feet.

Of minor extent in this map unit are Barfield, Braxton, Dellrose, and Harpeth soils on uplands and stream terraces. Also of minor extent are Arrington, Bluestocking, Capshaw, Godwin, Lynnville, Agee, and Tupelo soils in drainageways and on low stream terraces.

Slope, low productivity, limited available water capacity, and rock outcrops limit use of the soils in this unit for cultivated crops. Other, less steep areas are suited to pasture and hay. A few undulating areas and many areas of soils of minor extent are used for row crops. Erosion is a major problem on these soils. When erosion has removed the surface layer, the clayey subsoil can be exposed at the surface and productivity is reduced.

These soils are suited to use as woodland. Oak, hickory, locust, maple, hackberry, elm, and eastern redcedar are dominant. Productivity is moderate or high because of differences in the soils. The steep slopes and rock outcrops restrict use of logging equipment. In some areas erosion is a hazard on logging roads and skid trails.

Slope, shrink-swell potential, high clay content, low strength, and rock outcrops are the main limitations to use of these soils for urban and residential development.

7. Dellrose-Mimosa-Hawthorne

Rolling to steep, well drained soils that have a loamy subsoil; on uplands in the outer part of the Nashville Basin and on the Highland Rim

This map unit is characterized by high, rounded, cherty knobs; narrow, winding ridges; long, steep slopes; and narrow, v-shaped valleys (fig. 3). It is in the shape of a half circle beginning in the northeastern part of the county. It extends along the eastern side of the county to the Marshall County line. The knobs and ridges rise 200 to 400 feet above the valley floors. The hillsides range from 1,000 to 1,500 feet in length. Generally, slopes are 12 to 30 percent, but the range is 5 to 45 percent. The bedrock underlying this unit is level-bedded, phosphatic limestone capped with very cherty limestone.

About 50 percent of the acreage of this unit has been cleared. Most cleared hillsides are used for pasture. Some areas of the less sloping Dellrose and Mimosa soils are used for row crops. Forested areas consist of mixed hardwoods, mainly oak, hickory, hackberry, locust, and maple intermixed with areas of eastern redcedar. They are on the steeper hillsides or in areas with significant rock outcrops.

This unit makes up about 10 percent of the county. It is about 45 percent Dellrose soils, 25 percent Mimosa soils, 20 percent Hawthorne soils, and 10 percent soils of minor extent.

Dellrose soils are on steep hillsides. They formed in gravelly colluvium 4 to 7 feet thick. Typically, the surface layer is dark brown gravelly silt loam. In the upper part the subsoil is brown or strong brown gravelly silty clay loam or gravelly silt loam. In the lower part it is yellowish or reddish clay over bedrock.

Mimosa soils commonly are on slopes below Dellrose soils. Typically, the surface layer is brown silt loam. The subsoil is yellowish brown clay. Depth to bedrock ranges from 40 to 60 inches, but in some areas limestone outcrops are on the surface.

Hawthorne soils are very gravelly. They are on ridgetops and steep slope shoulders on hills and knobs. Typically, the surface layer is brown gravelly silt loam. The subsoil is yellowish brown to strong brown, very gravelly silt loam or very gravelly silty clay loam. Chert makes up about 15 percent of the surface layer and as much as 60 percent of the subsoil. The substratum consists of a mixture of dense, highly weathered siltstone, hard chert bands, and thin seams of soil material.

Figure 3.—An area of the Dellrose-Mimosa-Hawthorne general soil map unit. Dellrose soils are on lower hillsides and in coves. Mimosa soils are on upper hillsides and on some ridges and footslopes. Hawthorne soils are on the highest hill crests and slope shoulders.

Of minor extent in this map unit are Ashwood, Braxton, Barfield, and Harpeth soils on lower positions on hillsides. Also of minor extent are Noah and Mountview soils on winding ridges and knobs and scattered areas of rock outcrops on uplands. Also of minor extent, on drainageways, foot slopes, and low terraces, are Capshaw, Godwin, Lynnville, Arrington, and Bluestocking soils.

Steepness of slope and low soil productivity limit use of the soils in this unit mainly to pasture for beef and dairy cattle. Good pasture is possible on steep hillsides; however, care in seedbed preparation, liming and fertilizing, and annual mowing are necessary. Overgrazing is the main concern because of the erosion hazard and increased weed competition.

These soils are suitable for woodland use. Oak, hickory, locust, maple, hackberry, and eastern redcedar on uplands and yellow poplar along some drains and coves are dominant. Productivity is moderate or high because of differences in soils. Steep slopes and rock outcrop restrict use of logging equipment. Erosion is a hazard on logging roads and skid trails.

These soils have several limitations for urban and residential development. On Dellrose soils slippage is a minor limitation in less hilly areas and a major limitation in hillier areas. On Mimosa soils very slow permeability and shrink-swell potential are major limitations. On Hawthorne soils slope, depth to bedrock, and lateral seepage are the main limitations.

8. Dellrose-Hawthorne-Noah

Rolling to steep, well drained soils that have a loamy subsoil; on uplands on the Highland Rim

This map unit consists of rolling uplands; winding, narrow ridgetops; long, steep hillsides; and narrow, v-shaped valleys (fig. 4). It is in the highest part of the county. It extends south and west along the county line from Fairfield on the eastern side to Richmond on the southern side. Slopes range from 2 to 45 percent. The bedrock is very gravelly limestone.

About 50 percent of the acreage of this unit has been cleared. Most cleared areas are used for pasture or hay. A few small areas are in row crops or are idle. The scattered uncleared areas are in mixed hardwoods.

This unit makes up about 6 percent of the county. It

is about 45 percent Dellrose soils, 30 percent Hawthorne soils, 15 percent Noah soils, and 10 percent soils of minor extent.

Dellrose soils are on long, steep hillsides, in saddles between ridges, and on foot slopes. They formed in gravelly colluvium that ranges from about 40 inches to 7 feet thick. It generally overlies a reddish gravelly clay or brownish clay substratum over limestone bedrock. Typically, the surface layer is dark brown gravelly silt loam. The subsoil is brown or strong brown gravelly silt loam or gravelly silty clay loam.

Hawthorne soils are on rolling ridgetops and steep hillsides. They are on the upper part of hillsides above Dellrose soils. Typically, the surface layer is brown gravelly silt loam. The subsoil is yellowish brown to strong brown very gravelly silt loam or very gravelly silty clay loam. Chert makes up about 15 percent of the surface layer and as much as 60 percent of the subsoil. The substratum consists of a mixture of dense, highly weathered siltstone, hard chert bands, and thin seams of soil material.

Noah soils are on ridgetops and side slopes above Hawthorne soils. Typically, the surface layer is brown, gravelly silt loam. The subsoil is red gravelly clay. Chert makes up about 10 percent of the surface layer and as much as 35 percent of the subsoil. The substratum is yellowish red, very gravelly clay that has horizontally oriented, angular chert fragments and rock structure.

Of minor extent in this map unit are Mountview soils in less sloping areas on ridges. Also of minor extent are Mimosa, Ashwood, Bluestocking, Lynnville, and Barfield soils. Areas of rock outcrop are included on some steep side slopes and on lower nose slopes of ridges extending to drainageways.

Steepness of slope, low available water capacity, and chert fragments limit use of the soils in this unit to woodland, pasture, and hayland. A few, less sloping areas on ridges and a few small areas on foot slopes and along drainageways are used for crops. Some of the less steep areas of Dellrose and Noah soils can be used for pasture and hay. Hawthorne soils are gravelly and droughty and have a limited rooting depth. In most areas they are on steep hillsides and are poorly suited to pasture, hay, and row crops.

These soils are suited to use as woodland. Oak, hickory, locust, maple, hackberry, and yellow poplar are dominant. Productivity is low or moderate because of soil differences. Steep slopes restrict use of logging equipment. Erosion is a hazard on logging roads and skid trails. Restricted rooting depth and droughtiness are also management concerns.

These soils have several limitations for urban and

Figure 4.—An area of the Dellrose-Hawthorne-Noah general soil map unit. Dellrose soils are on lower hillsides and above drainageways. Hawthorne soils are on high ridges. In the foreground, Noah soils are on lower, smoother ridges.

residential development. On Dellrose soils slippage is a minor limitation on gentler slopes and a major limitation on steeper slopes. On Hawthorne soils, slope, rock fragments on the surface and in the subsoil, and seepage are the main limitations. On Noah soils slope, slow permeability, the clayey textured subsoil, and low strength are the main limitations.

Broad Land Use Considerations

Cropland, pasture, woodland, urban and residential areas, and recreation areas are important land uses in Bedford County. Cultivated crops, mainly corn, soybeans, wheat, and sorghum, are grown in small, scattered areas in all general soil map units, but mainly in map units 2, 3, and 5. Slope and the erosion hazard are limitations for crops on Talbott, Bradyville, Harpeth, and Braxton soils in map units 2 and 5. Wetness and occasional flooding in winter and early spring are limitations on Godwin and Agee soils in map unit 3.

Pasture and hay are important land uses in all general soil map units, but mainly map units 1, 2, 5, 6, and 8. On Talbott, Bradyville, Mimosa, Ashwood, Dellrose, Noah, Harpeth, and Braxton soils, the potential use for grasses and legumes is moderate or high.

Woodland is in all general soil map units. Nearly all map units are suited or well suited to tree production. Map unit 4 is poorly suited because of shallow soils and rock outcrops. On some map units in some areas steep slopes, wetness, flooding, or rock outcrops restrict use of equipment and selection of plants.

Urban and residential development are concerns near the town of Shelbyville, where land suitable for development is limited. The undulating Harpeth and Braxton soils in general soil map unit 5 are suited or well suited to urban uses. On other map units, however, shrink-swell potential, slope, slow permeability, depth to bedrock, wetness, and flooding are limitations.

The suitability of the soils for recreation use varies with the properties of the soils and the intensity of the expected use. General soil map units 2 and 5 have the best suitability for recreation use. On map units 3 and 4, depth to bedrock, rock outcrops, rock fragments on the surface, flooding, and wetness are limitations. On map units 5, 6, 7, and 8, the steeper areas are suitable only for paths and trails.

Most soils throughout the county are suited or well suited to use as habitat for openland and woodland wildlife. General soil map unit 4 is poorly suited because of shallow soil depth, rock outcrops, and low available water capacity for plant growth. General soil map unit 3 is suited or well suited to habitat for wetland wildlife, and Agee soils are well suited to shallow water impoundments for waterfowl.

Detailed Soil Map Units

The map units delineated on the detailed maps at the back of this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the heading "Use and Management of the Soils."

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Lomond silt loam, 0 to 2 percent slopes, is a phase of the Lomond series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown

separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Mimosa-Ashwood complex, 15 to 45 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Associations have not been described in Bedford County.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Undifferentiated groups have not been described in Bedford County.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits-Dumps complex is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Tables" in "Contents") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas

Soil Descriptions

Ag—Agee silty clay loam, frequently flooded

This is a very deep, poorly drained soil on nearly level flood plains. Slopes range from 0 to 2 percent.

Typical profile of the Agee soil—

Surface layer:
0 to 9 inches, very dark grayish brown silty clay loam

Subsurface layer:
9 to 18 inches, very dark gray silty clay

Subsoil:
18 to 47 inches, dark grayish brown clay that has brownish mottles

Substratum:
47 to 60 inches, dark grayish brown clay that has brownish mottles

Important properties of the Agee soil—

Permeability: Very slow
Available water capacity: High
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: Frequent; brief duration; January-April
Seasonal high water table: 0.0 to 1.0 foot; January-April
Depth to bedrock: More than 60 inches

Most areas of the Agee soil are used as pasture. A small acreage is used for woodland.

This soil is poorly suited to row crops. Frequent flooding is a hazard in late winter and spring and seasonal wetness delays planting in spring and harvesting in fall (fig. 5). It is suited to pasture of water-tolerant species. Grazing when the soil is wet causes surface compaction and poor tilth. Using rotational grazing or reducing stocking rates during wet periods helps to keep the pasture and the soil in good condition.

This soil is suited to woodland. Planting water-tolerant trees, such as water oak and eastern cottonwood, is recommended. Seasonal wetness causes an equipment limitation, windthrow hazard, seedling mortality, and plant competition. Performing field operations during dry periods reduces soil damage. Planting vigorous seedlings on raised beds increases survival rates of seedlings. Managing for an uneven-aged stand reduces the loss of trees to high winds. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses because flooding is a major hazard. Very slow permeability, wetness, and shrink-swell potential are also limitations for some uses.

This soil is in capability subclass 4w.

Ar—Arrington silt loam, frequently flooded

This is a very deep, well drained soil on nearly level flood plains. Slopes range from 0 to 2 percent.

Typical profile of the Arrington soil—

Surface layer:
0 to 7 inches, very dark grayish brown silt loam

Subsurface layer:
7 to 16 inches, dark brown silt loam

Subsoil:
16 to 40 inches, dark brown silt loam
40 to 60 inches, dark yellowish brown silt loam

Important Properties of the Arrington soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: Frequent; brief duration; January-April
Seasonal high water table: 4 to 6 feet; January-April
Depth to bedrock: More than 60 inches

Included with the Arrington soil in mapping are some small areas of soils that are somewhat poorly drained or that have a clayey subsoil.

Most areas of the Arrington soil are used as row crops. The rest is pasture or woodland.

This soil is well suited to row crops, small grains, and pasture. The frequent flooding is not a serious limitation for farming. Planting crops later in spring after the hazard of flooding has passed is recommended.

This soil is well suited to woodland, nursery plants, and speciality crops such as Christmas trees. Yellow poplar and black walnut are suitable trees to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is not suited to most urban uses because of flooding.

This soil is in capability subclass 3w.

AsC—Ashwood-Rock outcrop-Mimosa complex, 5 to 15 percent slopes

This map unit consists of the moderately deep, well drained Ashwood soil, Rock outcrop, and the deep, well drained Mimosa soil. It is mainly on ridgetops and hillsides on rolling uplands. The Ashwood and Mimosa soils and areas of Rock outcrop are so intricately mixed that they could not be separated at the scale selected for mapping. This unit is about 35 percent Ashwood soil, 25 percent Rock outcrop, 15 percent Mimosa soil, and 25 percent included soils.

Figure 5.—Clods form on Agee silty clay loam, frequently flooded, when plowed when the soil is too wet. In the background, at a higher elevation, Bradyville silt loam, 2 to 5 percent slopes, eroded, is prime farmland.

Typical profile of the Ashwood soil—

Surface layer:
0 to 6 inches, very dark grayish brown silt loam

Subsoil:
6 to 12 inches, very dark brown and dark brown clay
12 to 26 inches, dark yellowish brown clay

Bedrock:
26 inches, hard limestone

Important properties of the Ashwood soil—

Permeability: Moderately slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Rock outcrop consists of areas where hard, massive limestone crops out on the surface. In most areas the rock outcrops are even with the surface or extend to a height of up to 1 foot.

Typical profile of the Ashwood soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay

Substratum:
49 to 54 inches, yellowish brown clay that has brownish and grayish mottles

Bedrock:
54 inches, hard limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with the Ashwood and Mimosa soils in mapping are small areas of soils that are greater than 60 inches deep to bedrock.

In most areas the Ashwood and Mimosa soils are used as woodland or pasture. In several areas they are idle.

These soils are poorly suited to pasture. Droughtiness and rock outcrops are limitations. Selecting drought-resistant plants and using controlled grazing are good pasture management practices.

These soils are poorly suited to use as woodland mainly because of the low productivity of marketable timber. Also, the soils are somewhat droughty and rock outcrops can interfere with use of equipment. Loblolly pine and eastern redcedar are suitable trees to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, reduces plant competition.

These soils are poorly suited to most urban and residential uses. Depth to bedrock, rock outcrops, shrink-swell potential, and moderately slow and slow permeability are the main limitations.

The Ashwood soil is in capability subclass 6s. Rock outcrop has not been assigned a capability subclass. The Mimosa soil is in capability subclass 4e.

AsE—Ashwood-Rock outcrop-Mimosa complex, 15 to 45 percent slopes

This map unit consists of the moderately deep, well drained Ashwood soil, Rock outcrop, and the deep, well drained Mimosa soil mainly on hillsides on hilly or steep uplands. The Ashwood and Mimosa soils and areas of Rock outcrop are so intricately mixed that they could not be separated at the scale selected for mapping. This complex is about 35 percent Ashwood soil, 25 percent Rock outcrop, 15 percent Mimosa soil, and 25 percent included soils.

Typical profile of the Ashwood soil—

Surface layer:
0 to 6 inches, very dark grayish brown silt loam

Subsoil:
6 to 12 inches, very dark brown and dark brown clay
12 to 26 inches, dark yellowish brown clay

Bedrock:
26 inches, hard limestone bedrock

Important properties of the Ashwood soil—

Permeability: Moderately slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Rock outcrop is hard limestone bedrock. In most areas the bedrock is even with the surface of the soil or extends to a height of 12 inches.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay

Substratum:
49 to 54 inches, yellowish brown clay that has brownish and grayish mottles
54 inches, massive, hard limestone bedrock.

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with the Mimosa and Ashwood soils in mapping are small areas of soils that are greater than 60 inches deep to bedrock.

Almost all areas of the Mimosa and Ashwood soils are used as woodland. A few areas are used for pasture.

These soils are poorly suited to pasture. Droughtiness, rock outcrops, shrink-swell potential, and slope are the main limitations. Selecting drought-resistant plants and controlling grazing are good pasture management practices.

These soils are poorly suited to woodland mainly because of low productivity of marketable timber. Also, the soils are droughty and rock outcrops interfere with use of equipment. Loblolly pine and eastern redcedar are suitable to plant. The erosion hazard and the equipment limitation are woodland management concerns. Protecting the forest litter helps to control erosion. Safety is a concern when using equipment in steeper areas. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

These soils are unsuited to most urban and residential uses. Depth to bedrock, slope, shrink-swell potential, and slow and moderately slow permeability are the main limitations.

The Ashwood soil is in capability subclass 7s. Rock outcrop has not been assigned a capability subclass. The Mimosa soil is in capability subclass 7e.

BaD—Barfield-Rock outcrop complex, 5 to 35 percent slopes

This map unit consists of the Barfield soil and Rock outcrop on rolling and hilly uplands. The Barfield soil and areas of Rock outcrop are so intermingled that they could not be separated at the scale selected for mapping (fig. 6). The Barfield soil makes up about 45 percent of the map unit, Rock outcrop makes up 30 percent, and included soils make up 25 percent.

Typical profile of the Barfield soil—

Surface layer:
0 to 5 inches, very dark grayish brown silty clay loam

Subsoil:
5 to 15 inches, very dark grayish brown clay
15 to 19 inches, olive brown clay

Bedrock:
19 inches, hard limestone

Rock outcrop consists of areas where hard, massive limestone is a few inches below the surface or crops out a foot or more above the surface.

Important properties of the Barfield soil—

Permeability: Moderately slow
Available water capacity: Low or very low
Soil reaction: Slightly acid to slightly alkaline
Depth to bedrock: 10 to 20 inches
Flood hazard: None
Seasonal high water table: None

Included in mapping are small areas of soils that are greater than 20 inches deep to bedrock.

In almost all areas the Barfield soil is used as woodland or pasture. In a few small areas it is idle.

This soil is poorly suited to pasture. Droughtiness, rock outcrops, shallow rooting depth, and steepness of slope are limitations. Selecting drought-resistant plants and using controlled grazing are necessary management practices.

This soil is poorly suited to use as woodland. Eastern redcedar can be grown for fenceposts. The erosion hazard, the equipment limitation, windthrow hazard, and seedling mortality are management concerns. Poor tilth and droughtiness cause high seedling mortality rates. Planting hardy, drought-tolerant seedlings in early spring improves seedling survival rates. Protecting the forest litter helps to control erosion. Windthrow is a hazard because of shallow rooting depth. Safety is a concern when equipment is used in steeper areas. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses. Depth to bedrock, slope, shrink-swell potential, and low strength are the main limitations.

The Barfield soil is in capability subclass 7s. Rock outcrop has not been assigned a capability subclass.

Bb—Bluestocking silt loam, frequently flooded

This is a deep, moderately well drained soil on nearly level flood plains. Slopes range from 0 to 3 percent.

Typical profile of the Bluestocking soil—

Surface layer:
0 to 12 inches, dark brown silt loam

Subsurface layers:
12 to 18 inches, very dark grayish brown silty clay loam
18 to 24 inches, very dark grayish brown silty clay loam that has grayish mottles
24 to 29 inches, very dark grayish brown very gravelly silty clay loam that has grayish mottles

Substratum
29 to 58 inches, very dark grayish brown extremely gravelly clay that has grayish mottles

Important properties of the Bluestocking soil—

Permeability: Moderate
Available water capacity: Low or moderate
Soil reaction: Slightly acid or neutral
Flood hazard: Frequent; brief duration; January-April
Seasonal high water table: 2.0-3.0 feet; January-April
Depth to bedrock: 58 inches

Included with the Bluestocking soil in mapping are a few small areas of poorly drained soils. Also included, in convex areas, are areas of well drained soils. Also included are small areas of soils where the gravelly substratum is at a depth of more than 40 inches.

In most areas this Bluestocking soil is used for

Figure 6.—Barfield-Rock outcrop complex, 5 to 35 percent slopes, is poorly suited to most farm uses. This area is used for honeybee hives.

pasture and hay. In a few areas it is cropland or woodland.

This soil is poorly suited to row crops and small grains. The narrow, irregular shape of most mapped areas limits use of equipment.

This soil is suited to pasture and hay. Production is low during dry periods because of droughtiness. Suitable management practices include liming and fertilizing, reducing stocking rates during periods of slow growth, and planning for weed control and harvesting. The hazard of frequent flooding is not a serious limitation for farming. Planting crops later in spring after the hazard of flooding has past is recommended.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable for planting. Seedling mortality rates are high because of droughtiness. Planting hardy seedlings in early spring increases survival rates. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses because of flooding.

This soil is in capability subclass 3w.

BdB2—Bradyville silt loam, 2 to 5 percent slopes, eroded

This is a deep, well drained soil commonly on elongated ridges on undulating uplands. Erosion has removed part of the original surface layer.

Typical profile of the Bradyville soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 20 inches, yellowish red silty clay loam
20 to 50 inches, red and yellowish red clay that has brownish and reddish mottles

Bedrock:
50 inches, hard, massive limestone

Important properties of the Bradyville soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with this Bradyville soil in mapping are loamy soils in depressions as much as 3 acres in size. Also included are small areas of soils that are less than 40 inches deep to bedrock.

In many areas the Bradyville soil is used as pasture. In other areas it is in hay or row crops or is idle.

This soil is well suited to row crops, small grains, pasture, and hay. Crop residue management and contour farming help to control erosion in cultivated areas. Renovating to maintain the desired species helps to increase the forage production of the pasture.

This soil is well suited to use as woodland. Yellow poplar and loblolly pine are suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to some urban and residential uses. Moderately slow permeability limits use of this soil as sites for septic tank absorption fields. Increasing the field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Shrink-swell potential is a limitation for dwellings without basements. Depth to bedrock and shrink-swell potential are limitations for dwellings with basements. Reinforcing foundations helps to reduce shrink-swell potential limitation.

This soil is in capability subclass 2e.

BdC2—Bradyville silt loam, 5 to 12 percent slopes, eroded

This is a deep, well drained soil commonly on hillsides and rolling uplands. Erosion has removed part of the original surface layer.

Typical profile of the Bradyville soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 20 inches, yellowish red silty clay loam
20 to 50 inches, red and yellowish red clay that has brownish and reddish mottles

Bedrock:
50 inches, hard limestone

Important properties of the Bradyville soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None

Depth to bedrock: 40 to 60 inches

Included with this Bradyville soil in mapping are small areas of soils that are less than 40 inches deep to bedrock. Also included are small areas of severely eroded soils that have a clayey surface layer.

Most areas of this Bradyville soil are used for pasture. The rest is mostly in hay or trees.

This soil is suited to row crops and well suited to pasture and hay. Stripcropping and terracing are management practices that can help to reduce runoff and to control erosion in cultivated areas. Overgrazing pasture before plants are well established at the start of the growing season can result in damage to the soil and invasion of undesirable species.

This soil is well suited to use as woodland. Yellow poplar and loblolly pine are suitable trees to plant. The erosion hazard and plant competition are management concerns. Yarding paths, skid trails, and fire breaks are subject to rilling and gullying unless protected by adequate water bars, plant cover, or both. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce the immediate plant competition after planting.

This soil is suited to some urban and residential uses. Moderately slow permeability limits use of this soil as sites for septic tank absorption fields. Increasing the field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Shrink-swell potential and slope are limitations for dwellings without basements. Depth to bedrock, slope, and shrink-swell potential are limitations for dwellings with basements. Reinforcing foundations helps to reduce shrink-swell potential.

This soil is in capability subclass 3e.

BnC—Bradyville-Urban land complex, 2 to 10 percent slopes

This map unit consists of the deep, well drained Bradyville soil and Urban land mostly on undulating and rolling ridges and hillsides on uplands. The Bradyville soil and Urban land are so intermingled or so small in size that separating them was not practical at the scale selected for mapping. This unit is about 50 percent Bradyville soil, 25 percent Urban land, and 25 percent included areas.

Typical profile of the Bradyville soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 20 inches, yellowish red silty clay loam
20 to 50 inches, red and yellowish red clay that has brownish and reddish mottles

Bedrock:
50 inches, hard, massive limestone

Important properties of the Bradyville soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Urban land is made up of residential buildings, roads, streets, sidewalks, bridges, parking lots, public and commercial buildings, and other structures.

Included with the Bradyville soil in mapping are small areas of soils where hard bedrock is within a depth of 40 inches. Also included, along drainageways, are a few small areas of soils that have a seasonal high water table and that are subject to frequent flooding. Also included are a few small areas that are more than 25 percent Urban land.

In most areas the Bradyville soil is not suited to farming. In areas that are not urbanized, it is suited to parks, gardens, and landscaping with ornamentals.

This soil is suited for some urban and residential uses. Moderately slow permeability limits use of this soil as sites for septic tank absorption fields. Increasing the field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Shrink-swell potential is a limitation for dwellings without basements. Depth to bedrock and shrink-swell potential are limitations for dwellings with basements. Reinforcing foundations helps to reduce shrink-swell potential.

The Bradyville soil and Urban land have not been assigned a capability subclass.

BrB2—Braxton silt loam, 2 to 5 percent slopes, eroded

This is a very deep, well drained soil on undulating uplands. Erosion has removed part of the original surface layer.

Typical profile of the Braxton soil—

Surface layer:
0 to 7 inches, dark brown silt loam

Subsoil:
7 to 15 inches, yellowish red silty clay
15 to 60 inches, yellowish red clay

Important properties of the Braxton soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with the Braxton soil in mapping are a few areas of soils that have bedrock within a depth of 60 inches. Also included are small areas of soils that have a loamy subsoil.

Most areas of the Braxton soil are used as pasture or hay. A small acreage is used as cropland or woodland.

The soil is suited to row crops and well suited to pasture. Erosion is a hazard if cultivated crops are grown. Conservation tillage and crop residue management help to reduce runoff and to control erosion. Pasture and hay production are reduced during dry periods because of droughtiness.

This soil is well suited to use as woodland. Loblolly pine is a suitable tree to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to some urban and residential uses. Moderately slow permeability limits use of this soil as sites for septic tank absorption fields. Increasing the field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing roads helps to overcome low strength.

This soil is in capability subclass 2e.

BrC2—Braxton silt loam, 5 to 12 percent slopes, eroded

This is a very deep and well drained soil on rolling uplands. Erosion has removed part of the original surface layer.

Typical profile of the Braxton soil—

Surface layer:
0 to 7 inches, dark brown silt loam

Subsoil:
7 to 15 inches, yellowish red silty clay
15 to 60 inches, yellowish red clay

Important properties of the Braxton soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with the Braxton soil in mapping are a few areas of soils that have bedrock within a depth of 60 inches. Also included are small areas of soils that have a loamy subsoil.

In most areas the Braxton soil is used for pasture and hay. In some areas it is woodland.

This soil is suited to row crops; however, further loss of the surface layer by erosion is a hazard. Winter cover crops and crop rotation help to reduce runoff and to control erosion in cultivated areas.

This soil is suited to pasture and hay. Production may be low during dry periods because of droughtiness.

This soil is well suited to use as woodland. Loblolly pine is a suitable tree to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to many urban and residential uses. Moderately slow permeability limits use of this soil as sites for septic tank absorption fields. Increasing field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing roads helps to overcome low strength.

This soil is in capability subclass 3e.

BxD3—Braxton silty clay loam, 12 to 20 percent slopes, severely eroded

This is a very deep, well drained soil on hilly uplands. Erosion has removed most of the original surface layer.

Typical profile of the Braxton soil—

Surface layer:
0 to 5 inches, dark brown silty clay loam

Subsoil:
5 to 15 inches, yellowish red silty clay
15 to 60 inches, yellowish red clay

Important properties of the Braxton soil—

Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with the Braxton soil in mapping are a few areas of soils that have bedrock within a depth of 60 inches. Also included are small areas of soils that have a loamy subsoil.

In most areas the Braxton soil is used as woodland. It is poorly suited to row crops because of loss of the surface layer by previous erosion.

This soil is suited to pasture. Slope and maintaining an adequate stand of grass are important concerns in pasture management. Reseeding and applying lime and fertilizer annually is required to maintain productivity.

This soil is well suited to use as woodland. Loblolly pine is a suitable tree to plant. The erosion hazard, seedling mortality, the equipment limitation, and plant competition are management concerns. Poor tilth and droughtiness cause high seedling mortality rates. Planting hardy seedlings in early spring improves seedling survival rates. Protecting the forest litter helps to control erosion. Safety is a concern when using equipment in steeper areas. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to some urban and residential uses. Steepness of slope can limit use of this soil as sites for septic tank absorption fields. Installing septic systems on the contour can help to reduce the slope limitation. In constructing dwellings developing engineering designs and applying the best excavation and construction practices are needed to overcome the slope limitation. Slope and low strength are limitations for local roads and streets. Designing roads on the contour and using suitable subgrade material help to overcome the limitations of slope and low strength.

This soil is in capability subclass 6e.

CaA—Capshaw silt loam, 0 to 2 percent slopes

This is a very deep, moderately well drained soil on nearly level stream terraces.

Typical profile of the Capshaw soil—

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 13 inches, yellowish brown silt loam
13 to 48 inches, yellowish brown silty clay and clay that has grayish mottles in the lower part

Subsoil and substratum:
48 to 60 inches, light olive brown clay that has brownish mottles

Important properties of the Capshaw soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Moderately acid or strongly acid
Flood hazard: None
Seasonal high water table: 3.5 to 5.0 feet; December-March
Depth to bedrock: More than 60 inches

Included with this Capshaw soil in mapping are a few small areas of well drained soils. Also included are small areas of soils that have a fragipan. Also included are a few small areas of rock outcrops.

In most areas this Capshaw soil is used for hay and pasture. In several areas it is used for woodland.

It is well suited to row crops, hay, and pasture. High yields of forage are possible if good management practices are used.

This soil is well suited to use as woodland. Loblolly pine and yellow poplar are suitable to plant. This soil has no significant woodland management problems.

This soil is poorly suited to most urban and residential uses. Slow permeability and wetness are limitations on sites for septic tank absorption fields. In some areas a specially designed system is needed to overcome the permeability and wetness limitations. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Shrink-swell potential is a limitation for dwellings without basements. Shrink-swell potential and wetness are limitations for dwellings with basements. Reinforcing walls and foundations and waterproofing help to reduce the limitations of shrink-swell potential and wetness.

This soil is in capability subclass 2w.

CaB—Capshaw silt loam, 2 to 5 percent slopes

This is a very deep, moderately well drained soil on undulating terraces and foot slopes.

Typical profile of the Capshaw soil

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 13 inches, yellowish brown silt loam
13 to 48 inches, yellowish brown silty clay and clay that has grayish mottles in the lower part

Subsoil and substratum:
48 to 60 inches, light olive brown clay that has brownish mottles

Important properties of the Capshaw soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Moderately acid to strongly acid
Flood hazard: None
Seasonal high water table: 3.5 to 5.0 feet; December-March
Depth to bedrock: More than 60 inches

Included with this Capshaw soil in mapping are a few small areas of well drained soils. Also included are small areas of soils that have a fragipan. Also included are a few small areas of rock outcrops.

Most areas of this Capshaw soil are used as pasture. Some areas are used for row crops or trees.

This soil is suited to row crops and is well suited to hay and pasture. Contour farming and crop residue management help to control erosion in cultivated areas. Forage production yields can be high if pastures are well managed.

This soil is well suited to use as woodland.

Loblolly pine and yellow poplar are suitable to plant. This soil has no significant woodland management problems.

This soil is poorly suited to most urban and residential uses. Slow permeability and wetness are limitations for septic tank absorption fields. A specially designed system may be needed to overcome the permeability and wetness limitations. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Shrink-swell potential is a limitation for dwellings without basements. Shrink-swell potential and wetness are limitations for dwellings with basements. Reinforcing and waterproofing walls and foundations help to reduce the limitations of shrink-swell potential and wetness.

This soil is in capability subclass 2e.

CoB—Colbert silt loam, 1 to 5 percent slopes

This is a deep, moderately well drained soil mostly on elongated foot slopes on undulating uplands.

Typical profile of the Colbert soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 35 inches, yellowish brown clay

Subsoil and substratum:
35 to 46 inches, yellowish brown clay that has brownish and grayish mottles

Bedrock:
46 inches, hard limestone

Important properties of the Colbert soil—

Permeability: Very slow
Available water capacity: Moderate
Soil reaction: Strongly acid to slightly acid
Flood hazard: None
Seasonal high water table: 3.5 to 5.0 feet; December to March
Depth to bedrock: 40 to 60 inches

Included with this Colbert soil are small areas of soils that are less than 40 inches deep to bedrock. Also included are a few small areas of soils where bedrock is at a depth of more than 60 inches and where the upper part of the subsoil is loamy.

In most areas this soil is used for pasture. In a few areas it is used as cropland or woodland.

This soil is suited to row crops and small grains. Erosion is a hazard if cultivated crops are grown. Crop residue management and contour farming help to increase infiltration and to control erosion.

This soil is suited to pasture and hay. In most years droughtiness reduces yields during periods of low rainfall.

This soil is suited to use as woodland. Loblolly pine is suitable to plant for commercial production. The equipment limitation and plant competition are management concerns. Harvesting and planting in late summer and early fall, the dry seasons; reduces rutting and increases equipment trafficability. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This map unit is poorly suited to most urban and residential uses. Wetness and slow permeability are limitations for septic tank absorption fields. A specially designed system may be needed to overcome the wetness and permeability limitations. Low strength and shrink-swell potential are limitations for local roads and streets. Providing a suitable base material before constructing road surfaces helps to overcome the limitations of low strength and shrink-swell potential.

Shrink-swell potential is a limitation for dwellings with or without basements. Providing suitable base material before construction and reinforcing foundations and walls help to reduce shrink-swell potential.

This soil is in capability subclass 3e.

CoC2—Colbert silt loam, 5 to 12 percent slopes, eroded

This is a moderately deep, well drained soil commonly on hillsides on rolling uplands.

Typical profile of the Colbert soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 35 inches, yellowish brown clay

Subsoil and substratum:
35 to 46 inches, yellowish brown clay that has brownish and grayish mottles

Bedrock
46 inches, hard limestone

Important properties of the Colbert soil—

Permeability: Very slow
Available water capacity: Moderate
Soil reaction: Strongly acid to slightly acid
Flood hazard: None
Seasonal high water table: 3.5 to 5.0 feet; December to March
Depth to bedrock: 40 to 60 inches

Included with this Colbert soil in mapping are small areas of soils that are less than 20 inches deep to bedrock. Also included are a few small areas of severely eroded soils that have a clayey surface layer.

Most areas of this Colbert soil are used as pasture. In a few areas it is idle or woodland.

This soil is poorly suited to row crops and small grains because of the erosion hazard and droughtiness. Conservation practices are needed to reduce runoff, to control erosion, and to increase infiltration. On cropland, cultivating on the contour and using a rotation system in which a vegetative cover is on the land for several seasons are needed.

This soil is suited to pasture and hay. Yields, however, are generally reduced during periods of low rainfall.

This soil is suited to use as woodland. Loblolly pine is a suitable tree to plant for commercial production. Harvesting and planting in late summer and early fall, the dry seasons; reduce rutting and increase equipment trafficability. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited for most urban and residential uses. Wetness and slow permeability are limitations for septic tank absorption fields. In some areas a specially designed system may be needed to overcome the wetness and permeability limitations. Low strength and shrink-swell potential are limitations for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome the limitations of low strength and shrink-swell potential. Shrink-swell potential is a limitation for dwellings with or without basements. Backfilling sites with a suitable base material before construction, reinforcing foundations and walls, and diverting runoff away from foundations help to overcome shrink-swell potential.

This soil is in capability subclass 6e.

DeC—Dellrose gravelly silt loam, 5 to 12 percent slopes

This is a very deep, well drained soil on foot slopes of rolling uplands.

Typical profile of the Dellrose soil—

Surface layer:
0 to 7 inches, dark brown gravelly silt loam

Subsoil:
7 to 13 inches, brown gravelly silt loam
13 to 52 inches, strong brown gravelly silty clay loam
52 to 60 inches, strong brown gravelly clay

Important properties of the Dellrose soil—

Permeability: Moderately rapid in the upper part of the subsoil and moderate in the lower part
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Dellrose soil in mapping are small areas of soils that are less than 40 inches deep to shale bedrock. Also included are a few small areas of soils that are very gravelly in the surface layer and in the upper part of the subsoil.

Most of this soil is used for pasture or woodland. In some small areas it is in row crops.

This soil is suited to row crops and is well suited to small grains, hay, and pasture. Erosion is a hazard if cultivated crops are grown. Winter cover crops and crop rotations help to reduce runoff and to control erosion. On pasture, liming and fertilizing, reducing

stocking rates during periods of slow growth, and planning both for weed control and for harvest are needed.

This soil is well suited to use as woodland. Yellow poplar and loblolly pine are suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to some urban and residential uses. Slope and moderate permeability in the lower part of the subsoil limit use of this soil as sites for septic tank absorption fields. Extending the length of filter lines and installing filter lines on the contour can help to reduce the limitations of slope and permeability. In constructing dwellings engineering practices may be needed to overcome the slope limitation. Slope is also a limitation for local roads and streets. Designing roads on the contour helps to overcome the slope limitation.

This soil is in capability subclass 3e.

DeD—Dellrose gravelly silt loam, 12 to 20 percent slopes

This is a very deep, well drained soil on foot slopes of hilly uplands.

Typical profile of the Dellrose soil—

Surface layer:
0 to 7 inches, dark brown gravelly silt loam

Subsoil:
7 to 13 inches, brown gravelly silt loam
13 to 52 inches, strong brown gravelly silty clay loam
52 to 60 inches, strong brown gravelly clay

Important properties of the Dellrose soil—

Permeability: Moderately rapid in the upper part of the subsoil and moderate in the lower part
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Dellrose soil in mapping are small areas of soils that are less than 40 inches deep to shale bedrock. Also included are a few small areas of soils that are very gravelly in the surface layer and in the upper part of the subsoil.

Most areas of this Dellrose soil are used as woodland. Some small areas are in pasture.

This soil is poorly suited to row crops because of slope and the erosion hazard. Crop rotations mainly of grasses and legumes and of long duration are needed.

This soil is suited to pasture and hay. Liming and fertilizing, proper seeding rates and mixtures, reduced stocking rates during periods of slow growth, and planning both for harvest and weed control are needed.

This soil is well suited to use as woodland. Yellow poplar and loblolly pine are suitable to plant. The equipment limitation, the erosion hazard, seedling mortality, and plant competition are management concerns. Protecting the forest litter helps to control erosion. Safety is a concern when operating equipment in the steeper areas. Planting on north- and east-facing slopes provides more available moisture to seedlings during dry seasons. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to many urban and residential uses. Steepness of slope is the main limitation. Engineering designs and construction practices that conform to the shape of the land can help to overcome the slope limitation.

This soil is in capability subclass 4e.

DeE—Dellrose gravelly silt loam, 20 to 45 percent slopes

This is a very deep, well drained soil on foot slopes and steep hillsides on uplands.

Typical profile of the Dellrose soil—

Surface layer:
0 to 7 inches, dark brown gravelly silt loam

Subsoil:
7 to 13 inches, brown gravelly silt loam
13 to 52 inches, strong brown gravelly silty clay loam
52 to 60 inches, strong brown gravelly clay

Important properties of the Dellrose soil—

Permeability: Moderately rapid in the upper part of the subsoil and moderate in the lower part
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Dellrose soil in mapping are smal areas of soils that are less than 40 inches deep to shale bedrock. Also included are a few small areas of soils that are very gravelly in the surface layer and in the upper part of the subsoil.

Most of this soil is used as woodland or pasture.

This soil is unsuited to use as cropland because of the steep slopes. It is suited to pasture. Controlling

weeds and maintaining an adequate stand of grasses are difficult because of the steep slopes.

This soil is suited to the production of yellow poplar and loblolly pine. The equipment limitation, erosion hazard, seedling mortality, and plant competition are management concerns. Safety is a concern when operating equipment in the steeper areas. Protecting the forest litter helps to control erosion. Planting on the north- and east-facing slopes provides more available moisture to seedlings during dry seasons. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses. Steepness of slope is the major limitation. The soil is subject to slippage where deep cuts have been made. Reinforcing foundations and using engineering designs that conform to the shape of the land can help to reduce the slope limitation.

This soil is in capability subclass 7e.

Ea—Eagleville silty clay loam, frequently flooded

This is a moderately deep, somewhat poorly drained soil on nearly level flood plains. Slopes are 0 to 2 percent.

Typical profile of the Eagleville soil—

Surface layer:
0 to 6 inches, very dark brown silty clay loam

Subsurface layer
6 to 11 inches, black silty clay
11 to 16 inches, very dark gray clay

Subsoil:
16 to 32 inches, grayish brown clay

Bedrock:
32 inches, hard limestone

Important properties of the Eagleville soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: Frequent; brief duration; December-March
Seasonal high water table: 1.0 to 2.0, December-March
Depth to bedrock: 20 to 40 inches

Included with this Eagleville soil in mapping, in slight depressions, are small areas of poorly drained soils. Also included are a few areas of soils that are less than 20 inches deep to bedrock. Also included are some areas of limestone outcrops.

Most of this soil is used for pasture. In a few areas it is used for woodland.

This soil is poorly suited to most row crops because of seasonal wetness and flooding. It is suited to water-tolerant pasture plants. However, grazing when the soil is wet causes surface compaction and poor tilth.

This soil is well suited to bottomland hardwoods. Yellow poplar and cherrybark oak are suitable to plant. The equipment limitation, seedling mortality, and plant competition are management concerns. Equipment use during dry seasons reduces soil damage. Protecting seedlings from flooding and planting seedlings on raised beds increase survival rates. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is not suited to most urban and residential uses because flooding is a hazard. Depth to bedrock, shrink-swell potential, wetness, and low strength are also limitations for urban and residential uses.

This soil is in capability subclass 3w.

Eg—Egam silt loam, frequently flooded

This is a very deep, moderately well drained soil on nearly level flood plains along drainageways. Slopes range from 0 to 2 percent.

Typical profile of the Egam soil—

Surface layer:
0 to 10 inches, dark brown silt loam

Subsurface layer;
10 to 20 inches, very dark brown clay

Subsoil:
20 to 42 inches, very dark grayish brown clay
42 to 60 inches, very dark grayish brown silty clay loam

Important properties of the Egam soil—

Permeability: Moderately slow
Available water capacity: High
Soil reaction: Slightly acid or neutral
Flood hazard: Frequent; very brief duration; December-April
Seasonal high water table: 3.0 to 4.0; December-April
Depth to bedrock: More than 60 inches

Included with this Egam soil in mapping, in depressions, are a few areas of somewhat poorly drained soils. Also included, along drainageways, are a few areas of soils that are less than 60 inches deep to bedrock.

Most areas of this soil are used for row crops. A few areas are used as woodland and pasture.

This soil is well suited to row crops, hay, and pasture. Flooding is a hazard for row crops in winter and early spring. Planting row crops and small grains later in spring when the hazard of flooding is past is recommended. In some areas grazing when the soil is wet damages both soil and plants and allows the invasion of undesirable species.

This soil is suited to use as woodland. Yellow poplar and black walnut are suitable trees to plant. Seedling mortality and plant competition are management concerns. Planting seedlings on raised beds and building levees around tree plantations will reduce losses caused by flooding. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is not suited to most urban and residential uses because of flooding. Moderately slow permeability, wetness, and low strength are also limitations for some urban and residential uses.

This soil is in capability subclass 3w.

GdC—Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst

This map unit consists of the Gladeville soil and areas of Rock outcrop on undulating and rolling uplands that have sinkholes and poorly defined drainage patterns. The very shallow and well drained Gladeville soil and areas of Rock outcrop are so intricately mixed that they could not be separated at the scale selected for mapping. This unit is about 50 percent Gladeville soil, 25 percent Rock outcrop, and 25 percent included soils (fig. 7).

Typical profile of the Gladeville soil—

Surface layer:
0 to 2 inches, very dark grayish brown flaggy silty clay loam

Figure 7.—Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst, is poorly suited to most farm uses. In some areas, however, eastern red cedar is grown for fenceposts.

2 to 6 inches, dark brown flaggy clay

Subsoil and substratum:
6 to 10 inches, dark brown flaggy clay

Bedrock:
10 inches, hard, thin-layered limestone

Important properties of the Gladeville soil—

Permeability: Moderately slow
Available water capacity: Very low
Soil reaction: Neutral or slightly alkaline
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 10 inches or less

Typically, Rock outcrop consists of areas where hard limestone bedrock crops out on the surface. In most areas the outcrops are even with the surface or extend to a height of as much as 1 foot.

Included with this Gladeville soil in mapping are small areas of soils that are more than 10 inches deep to bedrock.

Almost all of the Gladeville soil is used for woodland or pasture.

This soil is unsuited to use as cropland and poorly suited to hay and pasture. Droughtiness, rock outcrops, rock fragments on the surface, and the shallow rooting depth are limitations.

This soil is not suited to use as commercial woodland. Productivity is low. Eastern redcedar can be grown for fenceposts. Rock outcrops interfere with use of equipment. Seedling mortality rates are high because of droughtiness and the shallow rooting depth. Windthrow is a hazard because of the shallow rooting depth.

This soil is poorly suited to most urban and residential uses. Depth to bedrock is the main limitation.

The Gladeville soil is in capability subclass 7s. Rock outcrop has not been assigned a capability subclass.

Go—Godwin silt loam, frequently flooded

This is a very deep, somewhat poorly drained soil on nearly level flood plains along streams and drainageways. Slopes range from 0 to 2 percent.

Typical profile of the Godwin soil—

Surface layer:
0 to 7 inches, dark brown silt loam

Subsurface layer
7 to 19 inches, very dark gray silty clay

Subsoil:
19 to 30 inches, very dark grayish brown clay that has grayish and brownish mottles

Substratum:
30 to 60 inches, dark grayish brown clay that has grayish and brownish mottles

Important properties of the Godwin soil—

Permeability: Moderately slow
Available water capacity: High
Soil reaction: Slightly acid or neutral
Flood hazard: Frequent; brief duration; December-April
Seasonal high water table: 1.0 to 2.0; December-April
Depth to bedrock: More than 60 inches

Included with this Godwin soil in mapping are a few small areas of poorly drained soils. Also included are a few areas of soils less than 60 inches deep to bedrock.

Most of this soil is used for pasture. A few areas are in trees or row crops (fig. 8).

This soil is poorly suited to most row crops because of frequent flooding and a seasonal high water table. In most years flooding delays planting in spring and wetness interferes with harvesting operations in fall. Flooding is a hazard most often in winter and early spring. It can damage row crops planted early. Planting crops later in spring when the hazard is less is recommended.

This soil is suited to water-tolerant pasture plants. Grazing when the soil is wet causes surface compaction and poor tilth.

This soil is well suited to bottomland hardwoods. Eastern cottonwood and cherrybark oak are suitable to plant for commercial production. The equipment limitation, seedling mortality, and plant competition are management concerns for timber production. Performing field operations during dry periods reduces soil damage. Planting hardy seedlings on raised beds or constructing levees around seedlings increases survival rates. Site preparation, such as chopping, burning, and applying herbicides, reduces plant competition.

This soil is not suited to most urban and residential uses because flooding is a hazard. Moderately slow permeability, wetness, and low strength are also major limitations for some uses. In some areas special engineering and design are needed to overcome these limitations.

This soil is in capability subclass 3w.

Figure 8.—Godwin silt loam, frequently flooded, is well suited to late-season crops. In most years floodwater does not damage crops, such as soybeans or grain sorghum, planted later in the growing season.

HaA—Harpeth silt loam, 0 to 2 percent slopes

This is a very deep, well drained soil on nearly level, high stream terraces.

Typical profile of the Harpeth soil—

Surface layer:
0 to 8 inches, brown silt loam

Subsoil:
8 to 40 inches, brown silt loam and strong brown silty clay loam
40 to 60 inches, yellowish red clay

Included with this Harpeth soil in mapping are small areas of moderately well drained soils. Also included are small areas of soils that are clayey throughout the subsoil.

Important properties of the Harpeth soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Most of this soil is used for pasture and row crops. In a few areas it is used for woodland.

This soil is well suited to row crops, small grains, and pasture and hay. High yields are possible using good management practices.

This soil is well suited to use as woodland. Yellow

poplar and black walnut are suitable trees to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is well suited to most urban and residential uses. Low strength is a limitation for local roads and streets. Replacing the upper part of the soil with suitable subgrade material helps to overcome low strength.

This soil is in capability class 1.

HaB—Harpeth silt loam, 2 to 5 percent slopes

This is a very deep, well drained soil mostly on broad, undulating, high stream terraces.

Typical profile of the Harpeth soil—

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 40 inches, brown silt loam and strong brown silty clay loam
40 to 60 inches, yellowish red clay;

Important properties of the Harpeth soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Harpeth soil in mapping are small areas of soils that are clayey throughout the subsoil. Also included are small areas of moderately well drained soils.

Most of this Harpeth soil is used for pasture. In a few areas it is used for woodland or for row crops.

This soil is well suited for row crops, small grains, pasture, and hay. Crop residue management and farming on the contour can help to control erosion in cultivated areas. High yields of row crops and forage crops can be obtained under good management.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable trees to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is well suited to most urban uses. Low strength is a limitation for local roads and streets. Replacing the upper part of the soil with suitable subgrade material helps to overcome low strength.

This soil is in capability subclass 2e.

HaC2—Harpeth silt loam, 5 to 12 percent slopes, eroded

This is a very deep, well drained soil on rolling, high stream terraces. Erosion has removed part of the original surface layer.

Typical profile of the Harpeth soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 40 inches, brown silt loam and strong brown silty clay loam
40 to 60 inches, yellowish red clay

Important properties of the Harpeth soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Harpeth soil in mapping are small areas of soils that are clayey throughout the subsoil. Also included are small areas of moderately well drained soils.

In most areas this soil is used for pasture. In a few small areas it is in row crops or trees.

This soil is suited to row crops. Erosion is a hazard if cultivated crops are grown. Winter cover crops and crop rotations help to reduce runoff and to control erosion. This soil is well suited to pasture and hay. High yields of forage crops are possible with good management.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is well suited to most urban and residential uses. Slope is a limitation to use of this soil as sites for septic tank absorption fields. Installing field lines on the contour helps to overcome the slope limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength.

This soil is in capability subclass 3e.

HhC—Hawthorne gravelly silt loam, 5 to 15 percent slopes

This is a moderately deep, well drained soil

commonly on narrow, rolling hilltops or on the upper shoulders of hillsides on uplands.

Typical profile of the Hawthorne soil—

Surface layer:
0 to 4 inches, brown gravelly silt loam

Subsurface layer:
4 to 11 inches, yellowish brown gravelly silt loam

Subsoil:
11 to 17 inches, brown very gravelly silt loam

Substratum:
17 to 25 inches, strong brown very gravelly silty clay loam
25 to 60 inches, interbedded fractured chert and weathered siltstone

Important properties of the Hawthorne soil—

Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Extremely acid or very strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with this Hawthorne soil in mapping are small areas of soils that are less than 20 inches or more than 40 inches deep to bedrock. In some areas the included soils contain less than 35 percent gravel throughout.

About half of this soil is used for pasture. The rest is in woodland.

This soil is poorly suited to row crops because of droughtiness and the shallow rooting depth. It is better suited to pasture. Selecting drought-resistant pasture plants, liming and fertilizing, controlling grazing, and applying adequate weed control are needed in pasture management.

This soil is poorly suited to use as woodland because of low productivity, low available water capacity, and shallow rooting depth. Loblolly pine is suitable to plant for commercial production and to control erosion. Drought-resistant hardwoods are suited for commercial production. Seedling mortality is high because of droughtiness. Planting drought-tolerant seedlings in early spring improves seedling survival rates. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Depth to bedrock and slope are limitations for dwellings with or without basements. Special designs and engineering practices that conform to the shape of the site help to overcome the slope limitation. Depth to bedrock limits use of this soil as sites for septic tank absorption fields. A specially designed system is needed to overcome depth to bedrock. Slope is a limitation for local roads and streets. Designing roads on the contour helps to overcome the slope limitation.

This soil is in capability subclass 4s.

HhE—Hawthorne gravelly silt loam, 15 to 45 percent slopes

This is a moderately deep, well drained soil commonly on steep hillsides on uplands.

Typical profile of the Hawthorne soil—

Surface layer:
0 to 4 inches, brown gravelly silt loam

Subsurface layer:
4 to 11 inches, yellowish brown gravelly silt loam

Subsoil:
11 to 17 inches, brown very gravelly silt loam

Substratum:
17 to 25 inches, strong brown very gravelly silty clay loam
25 to 60 inches, interbedded fractured chert and weathered siltstone

Important properties of the Hawthorne soil—

Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Extremely acid or very strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with this Hawthorne soil in mapping are small areas of soils less than 20 inches or more than 40 inches deep to bedrock. Also included are a few areas of soils that contain less than 35 percent gravel throughout.

Most areas of this soil are used as woodland. A few, less sloping areas are in pasture.

This soil is poorly suited to pasture. Droughtiness and slope are limitations. Selecting drought-resistant pasture plants, liming and fertilizing, controlling grazing, and applying adequate weed control are needed in pasture management.

This map unit is poorly suited to use as woodland mainly because of low productivity, low available water capacity, and shallow rooting depth. Loblolly pine is a suitable tree to plant dominantly for erosion control. Drought-tolerant species are better suited to

commercial production. The equipment limitation, high seedling mortality, and plant competition are management concerns. Safety is a concern when using equipment in steeper areas. Shallow rooting depth and droughtiness cause high seedling mortality rates. Planting hardy, drought-tolerant seedlings on north- and east-facing slopes improves seedling survival rates.

This soil is unsuited to most urban and residential uses. Depth to bedrock and slope are the main limitations.

This soil is in capability subclass 7s.

HwC—Hillwood gravelly silt loam, 5 to 12 percent slopes

This is a very deep, well drained soil on rolling, high stream terraces.

Typical profile of the Hillwood soil—

Surface layer:
0 to 7 inches, dark brown gravelly silt loam

Subsoil:
7 to 60 inches, yellowish red extremely gravelly clay

Important properties of the Hillwood soil—

Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Slightly acid to strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Hillwood soil in mapping are small areas of soils that have less than 35 percent gravel in the subsoil. Also included are small areas of soils that are shallower than 60 inches to bedrock.

Most of this soil is used for pasture or hay. In a few small areas it is used for woodland.

This soil is poorly suited to use as cropland because of droughtiness. It is suited to pasture and hay. Selecting drought-resistant plants, liming and fertilizing, controlling grazing, and applying adequate weed control are needed in pasture management.

This soil is poorly suited to use as woodland because of low productivity and low available water capacity. Loblolly pine is a suitable tree to plant dominantly for esthetics and erosion control. Drought-resistant hardwoods are suited to commercial timber production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduces plant competition.

This soil is suited to some urban and residential uses. Steepness of slope limits use of this soil as sites for septic tank absorption fields, dwellings, and roads. Septic systems designed to conform to the shape of the site help to overcome the slope limitation. In constructing dwellings engineering practices are needed to overcome the slope limitation. Designing roads on the contour helps to overcome the slope limitation.

This soil is in capability subclass 4s.

LoA—Lomond silt loam, 0 to 2 percent slopes

This is a very deep, well drained soil on nearly level uplands.

Typical profile of the Lomond soil—

Surface layer:
0 to 8 inches, dark reddish brown silt loam

Subsoil:
8 to 17 inches, yellowish red silty clay loam
17 to 46 inches, dark red silty clay loam that has reddish mottles
46 to 60 inches, red silty clay that has brownish mottles

Important properties of the Lomond soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Strongly acid to slightly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Lomond soil in mapping are small areas of moderately well drained soils. Also included are small areas of soils that are clayey throughout the subsoil.

In most areas this soil is used for row crops. In a few areas it is used for woodland.

This soil is well suited to row crops, small grains, pasture, and hay. Yields are high if good management practices are used.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is well suited to most urban and residential uses. Low strength is a limitation for local roads and streets. Replacing the upper part of the soil with suitable subgrade material helps to overcome low strength.

This soil is in capability class 1.

LoB—Lomond silt loam, 2 to 5 percent slopes

This is a very deep, well drained soil on undulating uplands.

Typical profile of the Lomond soil—

Surface layer:
0 to 8 inches, dark reddish brown silt loam

Subsoil:
8 to 17 inches, yellowish red silty clay loam
17 to 46 inches, dark red silty clay loam that has reddish mottles
46 to 60 inches, red silty clay that has brownish mottles

Important properties of the Lomond soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Strongly acid to slightly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Lomond soil in mapping are small areas of soils that are clayey throughout the subsoil.

Most of this soil is used for pasture. A few areas are in row crops and trees.

This soil is well suited to row crops, small grains, pasture, and hay. Crop residue management and contour farming help to control erosion in cultivated areas. Forage production is high if pastures are well managed.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is well suited to most urban uses. Low strength is a limitation for local roads and streets. Replacing the upper part of the soil with suitable subgrade material helps to overcome low strength.

This soil is in capability subclass 2e.

Ly—Lynnville silt loam, frequently flooded

This is a very deep, moderately well drained soil on nearly level flood plains. Slopes range from 0 to 2 percent.

Typical profile of the Lynnville soil—

Surface layer:
0 to 8 inches, dark brown silt loam

Subsurface layer:
8 to 18 inches, dark brown silt loam

Subsoil:
18 to 46 inches, mottled, brown silt loam

Substratum:
46 to 60 inches, mottled brown, grayish brown, and dark yellowish brown silt loam

Important properties of the Lynnville soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to neutral
Flood hazard: Frequent; brief duration; December-April
Seasonal high water table: 2.0 to 3.0; December-April
Depth to bedrock: More than 60 inches

Included with the Lynnville soil in mapping are small areas of soils that have a clayey subsoil. Also included are small areas of poorly drained soils. Also included are a few areas of soils that are subject to frequent flooding.

In most areas this soil is used for row crops, pasture, or hay. In a few areas it is used as woodland.

This soil is suited to row crops. In some years wetness caused by late spring rains can delay planting. Flooding, mostly in winter and early spring, can damage row crops. Planting summer annuals, such as corn, soybeans, and grain sorghum, later in the season when the danger of flooding is reduced is recommended.

This soil is well suited to pasture, hay, and small grains. In some areas grazing before plants are well established or when the soil is wet damages both soil and plants.

This soil is well suited to use as woodland. Yellow poplar and black walnut are suitable trees to plant. Seedling mortality and plant competition are management concerns. In some years floodwater and floating debris damage young seedlings. Planting seedlings behind small levees or in raised beds helps to reduce flood damage. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses because of flooding.

The soil is in capability subclass 3w.

Me—Melvin silt loam, frequently flooded

This is a very deep, poorly drained soil on nearly level flood plains. Slopes range from 0 to 2 percent.

Typical profile of the Melvin soil—

Surface layer:
0 to 6 inches, dark grayish brown silt loam

Subsoil:
6 to 27 inches, light brownish gray and gray silt loam that has brownish mottles

Substratum:
27 to 60 inches, gray silt loam that has brownish mottles

Important properties of the Melvin soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: Frequent; long duration; December-May
Seasonal high water table: At the surface to 1.0 foot; December-May
Depth to bedrock: More than 60 inches

Included with this Melvin soil in mapping are small areas of soils that have a clayey subsoil. Also included are small areas of somewhat poorly drained soils.

In most areas this soil is used as woodland. A few small areas are in pasture.

This soil is poorly suited to row crops because of flooding and wetness. It is suited to pasture and hay if water-tolerant grasses are selected. Controlled grazing during wet periods helps to maintain both the soil and the plants.

This soil is suited to such water-tolerant species as willow oak and eastern cottonwood. The equipment limitation, the windthrow hazard, seedling mortality, and plant competition are management concerns caused by seasonal wetness and flooding. Planting and harvesting during dry periods in late summer and early fall reduce rutting and other damage to the soil. Planting hardy seedlings on raised beds or behind small levees increases survival rates. Managing for an uneven-aged stand reduces windthrow. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is unsuited to most urban and residential uses because of flooding and wetness.

This soil is in capability subclass 4w.

MmB2—Mimosa silt loam, 2 to 5 percent slopes, eroded

This is a deep, well drained soil mostly on undulating uplands and foot slopes. Erosion has removed part of the original surface layer.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay that has brownish and grayish mottles in the lower part

Substratum:
49 to 54 inches, yellowish brown clay that has grayish mottles

Bedrock:
54 inches, limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with this Mimosa soil in mapping are small areas of soils that are less than 40 inches deep to bedrock. Also included are a few areas of soils that are deeper than 60 inches.

Most of this soil is used for pasture. In some areas it is in row crops or trees.

This soil is suited to row crops and small grains. Erosion is a hazard if cultivated crops are grown. Leaving sufficient crop residue on the surface and contour farming help to reduce runoff and to control erosion.

This soil is suited to pasture and hay. Yields are low however, during periods of low rainfall.

This soil is suited to use as woodland. Loblolly pine is suitable to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, help to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Slow permeability is a limitation to use of this soil as sites for septic tank absorption fields. Lengthening the absorption fields of septic systems helps to reduce the permeability limitation. Low strength is a serious limitation for local roads and streets. Replacing part of the soil with suitable base material helps to overcome low strength.

This soil is in capability subclass 3e.

MmC2—Mimosa silt loam, 5 to 12 percent slopes, eroded

This is a deep, well drained soil mostly on rolling

foot slopes and uplands. Erosion has removed part of the original surface layer.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay that has brownish and grayish mottles in the lower part

Substratum:
49 to 54 inches, yellowish brown clay that has grayish mottles

Bedrock:
54 inches, limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with this Mimosa soil in mapping are small areas of soils that are less than 40 inches deep to bedrock. Also included are a few areas of soils that are more than 60 inches deep.

Most of this soil is used for pasture. In a few areas it is in row crops or trees.

This soil is poorly suited to row crops and small grains because of the erosion hazard. Conservation practices such as crop rotations of long duration and mainly of grasses and legumes help to reduce runoff and to control erosion. This soil is suited to hay and pasture. Yields are commonly reduced during periods of low rainfall.

This soil is suited to use as woodland. Loblolly pine is suitable to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Slow permeability is a limitation to use of this soil as sites for septic tank absorption fields. Increasing the absorption field of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Before constructing road surfaces, replacing the upper part of the soil with suitable base material helps to overcome low strength. Shrink-swell potential and slope are limitations for dwellings without basements. Depth to bedrock, shrink-swell potential, and slope are limitations for dwellings with basements. Reinforcing foundations and walls and constructing buildings to fit the shape of the site help to reduce the limitations of shrink-swell potential and slope.

This soil is in capability subclass 4e.

MmD2—Mimosa silt loam, 12 to 20 percent slopes, eroded

This is a deep, well drained soil on foot slopes and hillsides on uplands. Erosion has removed part of the original surface layer.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay that has brownish and grayish mottles in the lower part

Substratum:
49 to 54 inches, yellowish brown clay that has grayish mottles

Bedrock:
54 inches, limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with this Mimosa soil in mapping are small areas of soils that are less than 40 inches deep to bedrock. Also included are a few areas of soils that are more than 60 inches deep. Also included are a few small areas of rock outcrops.

Most of this soil is used for pasture. A few areas are used as woodland.

This soil is unsuited to row crops because of slope and the erosion hazard. It is suited to pasture and hay. Steepness of slope limits use of farm equipment and the ability to establish and maintain a suitable stand of grass. Yields are low during periods of low rainfall.

This soil is suited to use as woodland. Loblolly pine is suitable to plant for commercial production. The erosion hazard, the equipment limitation, and plant competition are management concerns. Care in protecting the forest litter helps to control erosion. Safety is a concern in the operation of heavy

equipment in steeper areas. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Steepness of slope and slow permeability limit use of this soil as sites for septic tank absorption fields. Septic systems of special design are needed to reduce the limitations of slope and permeability. Slope is a limitation for dwellings. Construction practices that conform to the shape of the site help to reduce the slope limitation. Steepness of slope and low strength are limitations for local roads and streets. Designing roads on the contour and using suitable subgrade material help to reduce the limitations of slope and low strength.

This soil is in capability subclass 6e.

MmE—Mimosa silt loam, 20 to 35 percent slopes

This is a deep, well drained soil on hillsides on uplands.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay that has brownish and grayish mottles in the lower part

Substratum:
49 to 54 inches, yellowish brown clay that has grayish mottles

Bedrock:
54 inches, limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Included with this Mimosa soil in mapping are small areas of rock outcrop and areas of soils that are less than 20 inches deep to bedrock. Also included are areas of soils that are similar to the Mimosa soil but that have a gravelly surface layer.

In most areas this soil is used as woodland.

This soil is unsuited to use as cropland because of steep slopes. It is poorly suited to pasture and hay. The steep slopes and droughtiness limit the establishment and maintenance of pasture plants.

This soil is poorly suited to use as woodland. Loblolly pine is a suitable tree to plant. The erosion hazard, the equipment limitation, and plant competition are management concerns. Protecting the forest litter helps to control erosion. Safety is a concern when using heavy equipment in steeper areas. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Steepness of slope and slow permeability limit use of this soil as sites for septic tank absorption fields. Septic systems of special design are needed to reduce the slope and permeability limitations. Steepness of slope is a limitation for dwellings. Constructing dwellings that conform to the shape of the site helps to reduce the slope limitation. Steepness of slope and low strength are limitations for local roads and streets. Designing roads on the contour and using suitable subgrade material help to reduce the limitations of slope and low strength.

This soil is in capability 7e.

MnC2—Mimosa-Ashwood complex, 5 to 15 percent slopes, eroded

This map unit consists of the deep, well drained Mimosa soil and the moderately deep, well drained Ashwood soil on rolling ridgetops on uplands. The Mimosa and Ashwood soils are in areas so intricately mixed that they could not be separated at the scale selected for mapping. This unit is about 50 percent Mimosa soil, 30 percent Ashwood soil, and 20 percent included soils.

Typical profile of the Mimosa soil—

Surface layer:
0 to 5 inches, brown silt loam

Subsoil:
5 to 10 inches, strong brown clay
10 to 50 inches, yellowish brown clay

Bedrock:
50 inches, hard limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None

Depth to bedrock: 40 to 60 inches

Typical profile of the Ashwood soil—

Surface layer:
0 to 5 inches, very dark grayish brown silt loam

Subsoil:
5 to 12 inches, very dark brown and dark brown clay
12 to 28 inches, dark yellowish brown clay

Bedrock:
28 inches, hard limestone

Important properties of the Ashwood soil—

Permeability: Moderately slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with the Mimosa and Ashwood soils in mapping are small areas of soils that are more than 60 inches deep to bedrock.

Most areas of these soils are used as woodland or pasture.

These soils are poorly suited to use as cropland because of slope, droughtiness, and the erosion hazard. They are poorly suited to pasture. Droughtiness is the main limitation. Selecting drought-resistant plants and controlling grazing are needed in pasture management.

This soil is suited to use as woodland. Loblolly pine is suitable to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

These soils are poorly suited to most urban and residential uses. Depth to bedrock, shrink-swell potential, and slow or moderately slow permeability are the main limitations.

The Mimosa and Ashwood soils both are in capability subclass 6s.

MnE—Mimosa-Ashwood complex, 15 to 45 percent slopes

This map unit consists of the deep, well drained Mimosa soil and the moderately deep, well drained Ashwood soil on steep hillsides on uplands. The Mimosa and Ashwood soils are in areas so intricately mixed that they could not be separated at the scale selected for mapping. This unit is about 50 percent Mimosa soil, 30 percent Ashwood soil, and 20 percent included soils.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 12 inches, strong brown clay
12 to 51 inches, yellowish brown clay

Bedrock:
51 inches, hard limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Typical profile of the Ashwood soil—

Surface layer:
0 to 6 inches, very dark grayish brown silt loam

Subsoil:
6 to 12 inches, very dark brown and dark brown clay
12 to 31 inches, dark yellowish brown clay

Bedrock:
31 inches, hard limestone

Important properties of the Ashwood soil—

Permeability: Moderately slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with the Mimosa and Ashwood soils in mapping are small areas of soils less than 20 inches deep to bedrock.

In most areas these soils are used as woodland or pasture.

These soils are unsuited to row crops because of steep slopes and the erosion hazard. They are poorly suited to pasture. Droughtiness and slope are limitations. Selecting drought-resistant plants and controlling grazing are needed in pasture management.

These soils are poorly suited to use as woodland. Loblolly pine is a suitable tree to plant. The erosion hazard, the equipment limitation, seedling mortality, and plant competition are management concerns. Protecting the forest litter helps to control erosion. Safety is a concern when using heavy equipment in

steeper areas. Planting larger nursery stock on wider spacings improves seedling survivability. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

These soils are poorly suited to most urban and residential uses. Depth to bedrock, slope, shrink-swell potential, and slow or moderately slow permeability are the main limitations.

The Mimosa and Ashwood soils both are in capability subclass 7s.

MoC—Mimosa-Urban land complex, 2 to 15 percent slopes

This map unit consists of the deep, well drained Mimosa soil and areas of Urban land on hillsides on undulating and rolling uplands. The Mimosa soil and areas of Urban land are so intricately mixed that they could not be separated at the scale selected for mapping. Most of this unit is in or around the perimeter of Shelbyville. This unit is about 55 percent Mimosa soil, 25 percent Urban land, and 20 percent included soils.

Typical profile of the Mimosa soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 14 inches, strong brown clay
14 to 49 inches, yellowish brown clay that has brownish and grayish mottles in the lower part

Substratum:
49 to 54 inches, yellowish brown clay that has grayish mottles

Bedrock:
54 inches, limestone

Important properties of the Mimosa soil—

Permeability: Slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 40 to 60 inches

Urban land consists mainly of homesites, driveways, streets, parking lots, public and industrial buildings, railroad yards, airports, and other structures built in the unit.

Included with the Mimosa soil in mapping are small areas of soils less than 40 inches deep to bedrock and a few areas of soils that are more than 60 inches deep. Also included in mapping, along drainageways, are small areas of well drained to poorly drained soils that are subject to flooding.

Areas of the Mimosa soil in this unit are unsuited to use as cropland, pasture, or woodland. Small, open areas are suited to use as parks, gardens, and plots for ornamental shrubs and trees.

The Mimosa soil is poorly suited to most urban uses. Slow permeability limits use of this soil as sites for septic tank absorption fields. Lengthening absorption field lines of septic systems helps to reduce the permeability limitation. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength.

This unit has not been assigned a capability subclass.

MtB—Mountview silt loam, 2 to 5 percent slopes

This is a very deep, well drained soil mainly on broad ridgetops on undulating uplands.

Typical profile of the Mountview soil—

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 32 inches, yellowish brown silt loam
32 to 60 inches, red gravelly clay that has reddish, brownish, and grayish mottles

Important properties of the Mountview soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid or strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Mountview soil in mapping are small areas of moderately well drained to somewhat poorly drained soils that have a fragipan.

Most of this soil is used as row crops. A few areas are used as pasture and woodland.

This soil is well suited to row crops, small grains, and pasture. Crop residue management and contour farming increase infiltration and help to control erosion Good forage yields can be attained if good pasture management is applied.

This soil is well suited to use as woodland. Yellow poplar and loblolly pine are suitable to plant for commercial production. Plant competition is a

management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to most urban and residential uses. Low strength is a limitation for local roads and streets. Providing suitable base material before constructing road surfaces helps to overcome low strength. Moderate permeability limits use of this soil as sites for septic tank absorption fields. Increasing the size of the filter field helps to reduce the permeability limitation.

This soil is in capability subclass 2e.

MtC2—Mountview silt loam, 5 to 12 percent slopes, eroded

This is a very deep, well drained soil mainly on rolling uplands. Erosion has removed part of the original surface layer.

Typical profile of the Mountview soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 30 inches, yellowish brown silt loam
30 to 60 inches, red gravelly clay that has reddish, brownish, and grayish mottles

Important properties of the Mountview soil—

Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid or strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: More than 60 inches

Included with this Mountview soil in mapping are small areas of moderately well drained and somewhat poorly drained soils that have a fragipan.

Most of this soil is used as pasture. A few areas are used as cropland and woodland.

This soil is suited to row crops and small grains. It is well suited to pasture and hay. Erosion is a hazard if row crops are grown. Minimum tillage and winter cover crops help to reduce runoff and to control erosion. Good pasture management includes liming and fertilizing, reducing stocking rates during periods of slow growth, applying adequate weed control, and planning for harvest.

This soil is well suited to use as woodland. Loblolly pine is suitable to plant for commercial production. The erosion hazard and plant competition are management concerns. Establishing a vegetative cover on yarding paths, firebreaks, and skid trails helps to control erosion during forestry operations. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to most urban and residential uses. Permeability is a limitation to use of this soil as sites for septic tank absorption fields. Increasing the size of the filter field helps to reduce the permeability limitation. Slope is a limitation for dwellings with or without basements. Engineering designs that conform to the contour of the land help to reduce the slope limitation. Low strength is a limitation for local roads and streets. Providing a suitable base material before constructing road surfaces helps to overcome low strength.

This soil is in capability subclass 3e.

NeA—Nesbitt silt loam, 0 to 2 percent slopes

This is a very deep, moderately well drained soil on nearly level uplands.

Typical profile of the Nesbitt soil—

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 37 inches, strong brown and yellowish brown silty clay loam that has mottles in the lower part
37 to 60 inches, yellowish brown clay that has grayish mottles

Important properties of the Nesbitt soil—

Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: High
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: 2.0 to 4.0 feet; January-April
Depth to bedrock: More than 60 inches

Included with this Nesbitt soil in mapping are small areas of moderately well drained soils that have a fragipan in the subsoil.

Most of this soil is used as row crops. Several areas are in pasture and hay.

This soil is well suited to row crops, small grains, pasture, and hay. Forage production is high if pastures are properly managed.

This soil is well suited to use as woodland. Loblolly pine and black walnut are suitable to plant. Plant competition is a management concern. Site

preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to urban and residential uses. Wetness is a limitation to use of this soil as sites for septic tank absorption fields. In some areas a specially designed system is needed to overcome the wetness limitation. Wetness is also a limitation for dwellings with or without basements. Surface and subsurface drainage and properly sealed basement walls help to reduce the wetness limitation. Low strength is a limitation for local roads and streets. Before constructing road surfaces, replacing the upper part of the soil with a suitable base material helps to overcome low strength.

This soil is in capability subclass 2w.

NeB—Nesbitt silt loam, 2 to 5 percent slopes

This is a very deep, moderately well drained soil dominantly on undulating uplands.

Typical profile of the Nesbitt soil—

Surface layer:
0 to 7 inches, brown silt loam

Subsoil:
7 to 37 inches, strong brown and yellowish brown silty clay loam that has mottles in the lower part
37 to 60 inches, yellowish brown clay that has grayish mottles

Important properties of the Nesbitt soil—

Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: High
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: 2.0 to 4.0 feet; January-April
Depth to bedrock: More than 60 inches

Included with this Nesbitt soil in mapping are areas of moderately well drained soils or soils that have a fragipan in the subsoil.

Most of this soil is used for row crops. A few small areas are in pasture and trees.

This soil is well suited to row crops, small grains, pasture, and hay. Minimum tillage helps to control erosion in cultivated areas. Forage production is high if pastures are well managed.

This soil is well suited to use as woodland. Loblolly pine and black walnut are suitable trees to plant. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to some urban and residential uses. Wetness is a limitation for septic tank absorption fields. In some areas a specially designed system is needed to overcome the wetness limitation. Wetness is a limitation for dwellings with or without basements. Surface and subsurface drainage and properly sealed basement walls help to reduce the wetness limitation. Low strength is a limitation for local roads and streets. Before constructing road surfaces, replacing the upper part of the soil with suitable base material helps to overcome low strength.

This soil is in capability subclass 2e.

NeC2—Nesbitt silt loam, 5 to 10 percent slopes, eroded

This is a very deep, moderately well drained soil on rolling uplands. Erosion has removed part of the original surface layer.

Typical profile of the Nesbitt soil—

Surface layer:
0 to 6 inches, brown silt loam

Subsoil:
6 to 37 inches, strong brown and yellowish brown silty clay loam that has mottles in the lower part
37 to 60 inches, yellowish brown clay that has grayish mottles

Important properties of the Nesbitt soil—

Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: High
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: 2.0 to 4.0 feet; January-April
Depth to bedrock: More than 60 inches

Included with this Nesbitt soil in mapping are small areas of moderately well drained soils that have a fragipan.

Most areas of this Nesbitt soil are in pasture. A few areas are in woodland.

This soil is suited to row crops, but erosion is a hazard. Stripcropping and terracing help to reduce runoff and to control erosion in cultivated areas. The soil is well suited to pasture and hay. Good pasture management includes liming and fertilizing, controlling weeds, and reducing stocking rates during periods of slow growth.

This soil is well suited to use as woodland. Loblolly pine and black walnut are suitable to plant. The erosion hazard and plant competition are management concerns. Restricting planting and harvesting to late summer and early fall when the soil is not as wet helps to reduce rutting and to control erosion. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to some urban and residential uses. Wetness is a limitation for septic tank absorption fields. In some areas a specially designed system is needed to overcome the wetness limitation. Wetness is a limitation for dwellings with or without basements. Surface and subsurface drainage and properly sealed basement walls help to reduce the wetness limitation. Low strength is a limitation for local roads and streets. Before constructing road surfaces, replacing the upper part of the soil with suitable base material helps to overcome low strength.

This soil is in capability subclass 3e.

NoC—Noah gravelly silt loam, 5 to 15 percent slopes

This is a deep, well drained soil on rolling hilltops on uplands.

Typical profile of the Noah soil—

Surface layer:
0 to 8 inches, dark brown and brown gravelly silt loam

Subsoil:
8 to 15 inches, yellowish brown gravelly silt loam
15 to 42 inches, yellowish red gravelly silty clay loam
42 to 54 inches, mottled yellowish red, brownish yellow, and reddish yellow very gravelly silty clay loam

Bedrock:
54 to 60 inches, fractured chert layers interbedded with thin seams of weathered rock strata and thin bands of soil material

Important properties of the Noah soil—

Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Extremely acid or very strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to (rippable) bedrock: 40 to 60 inches

Included with this Noah soil in mapping are small areas of soils that are less than 40 inches deep to rippable bedrock. Also included are a few small areas of soils that have a clayey subsoil.

Most areas of this soil are used for hay and pasture. A few areas are in row crops or trees.

This soil is poorly suited to cultivated crops because of the erosion hazard and droughtiness. If cultivated crops are grown, crop rotations that are of long duration and that consist mainly of grasses and legumes help to overcome these limitations. This soil is suited to pasture and hay but yields are low during dry periods. Selecting drought-resistant grasses, controlling weeds, and controlling grazing help to keep both pasture and soil in satisfactory condition.

This soil is suited to use as woodland but productivity is low. Loblolly pine is suitable to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is suited to many urban uses. Depth to bedrock, moderate permeability, and slope are limitations for septic tank absorption fields. These limitations can be overcome by lengthening the absorption fields of septic systems. Slope is a limitation for dwellings with or without basements. Special designs and engineering procedures that conform to the shape of the site help to reduce the slope limitation.

This soil is in capability subclass 3e.

NoE—Noah gravelly silt loam, 15 to 45 percent slopes

This is a deep, well drained soil on steep hillsides on uplands.

Typical profile of the Noah soil—

Surface layer:
0 to 8 inches, dark brown and brown gravelly silt loam

Subsoil:
8 to 15 inches, yellowish brown gravelly silt loam
15 to 42 inches, yellowish red gravelly silty clay loam
42 to 54 inches, mottled yellowish red, brownish yellow, and reddish yellow very gravelly silty clay loam

Substratum:
54 to 60 inches, fractured chert layers interbedded with thin seams of weathered rock strata and thin bands of soil material

Important properties of the Noah soil—

Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Extremely acid or very strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to (rippable) bedrock: 40 to 60 inches

Included with this Noah soil in mapping are small areas of soils that are less than 40 inches deep to rippable bedrock. Also included are a few areas of soils that have a clayey subsoil.

Most of this soil is used as woodland. A few small areas are in pasture.

This soil is not suited to row crops because of steep slopes and the erosion hazard. It is suited to pasture. Steepness of slope limits both use of farm equipment and the establishment and maintenance of a suitable stand of grass. Forage yields are low during periods of low rainfall because of droughtiness.

This soil is suited to use as woodland, but productivity is low. Loblolly pine is a suitable tree to plant. The erosion hazard, the equipment limitation, and plant competition are management concerns. Protecting the forest litter helps to control erosion. Safety is a concern when using equipment in steeper areas. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Steepness of slope limits use of this soil as sites for septic tank absorption fields. Designing septic systems to conform to the shape of the site helps to reduce the slope limitation. In constructing dwellings engineering practices are needed to overcome the slope limitation. Slope is a limitation for local roads and streets. Designing roads on the contour helps to reduce the slope limitation.

This soil is in capability subclass 7e.

Pd—Pits-Dumps complex

This map unit consists of limestone quarries, earth excavations, and unused earth material. In most areas it was excavated for highway construction.

Some areas are in use, but many have been abandoned. Generally, they support little or no vegetation. They must be reshaped before vegetation can be established.

This unit has not been assigned a capability subclass.

TaB2—Talbott silt loam, 2 to 5 percent slopes, eroded

This is a moderately deep, well drained soil on undulating uplands.

Typical profile of the Talbott soil—

Surface layer:
0 to 4 inches, brown silt loam

Subsoil:
4 to 10 inches, yellowish red silty clay loam
10 to 30 inches, yellowish red clay that has yellowish brown mottles

Substratum:
30 to 34 inches, light olive brown clay that has yellowish brown mottles

Bedrock:
34 inches, hard limestone

Important properties of the Talbott soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with this Talbott soil in mapping are small areas of soils that are less than 20 inches deep to bedrock. Also included are a few small areas of soils that are more than 40 inches deep to bedrock and that are loamy in the upper part of the subsoil.

Most of this soil is used as pasture. In a few areas it is cropland or woodland.

This soil is poorly suited to row crops and small grains. Erosion is a hazard if cultivated crops are grown. Shrink-swell potential in the subsoil and droughtiness are also limitations for crop production. Crop residue management and contour farming can help to increase infiltration and to control erosion. This soil is suited to pasture and hay, but periods of low rainfall generally reduce yields. Selecting drought-tolerant species is recommended.

This soil is suited to use as woodland. Productivity is low. Loblolly pine is a suitable tree to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Depth to bedrock, moderately slow

permeability, high shrink-swell potential, and low strength are the main limitations.

This soil is in capability subclass 3e.

TaC2—Talbott silt loam, 5 to 12 percent slopes, eroded

This is a moderately deep, well drained soil on rolling uplands.

Typical profile of the Talbott soil—

Surface layer:
0 to 4 inches, brown silt loam

Subsoil:
4 to 10 inches, yellowish red silty clay loam
10 to 30 inches, yellowish red clay that has yellowish brown mottles

Substratum:
30 to 34 inches, light olive brown clay that has yellowish brown mottles

Bedrock:
34 inches, hard limestone

Important properties of the Talbott soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Moderately acid or strongly acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Included with this Talbott soil in mapping are small areas of soils that are less than 20 inches deep to bedrock. Also included are a few small areas of soils that are more than 40 inches deep to bedrock and that are loamy in the upper part of the subsoil.

Most areas of this soil are in pasture. A few areas are in trees.

This soil is poorly suited to row crops and small grains because of the erosion hazard, the heavy clay subsoil, and droughtiness. If cultivated crops are grown, conservation practices are needed to reduce runoff and to control erosion. The most important of these are crop rotations of long duration and mainly of grasses and legumes. This soil is suited to pasture and hay, but periods of low rainfall generally reduce yields. Selecting drought-resistant species is recommended.

This soil is well suited to use as woodland. Loblolly pine is suitable to plant for commercial production. Plant competition is a management concern. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Depth to bedrock, moderately slow permeability, shrink-swell potential, and low strength are the main limitations.

This soil is in capability subclass 4e.

TrC—Talbott-Rock outcrop complex, 2 to 15 percent slopes

This map unit consists of the moderately deep, well drained Talbott soil and areas of Rock outcrop. It is on hillsides and undulating to rolling uplands. The Talbott soil and Rock outcrop are so intricately mixed that separating them was not practicable at the scale selected for mapping (fig. 9). This unit is about 60 percent Talbott soil, 25 percent Rock outcrop, and 15 percent included soils.

Typical profile of the Talbott soil—

Surface layer:
0 to 5 inches, brown silt loam

Subsoil:
5 to 10 inches, yellowish red silty clay loam
10 to 30 inches, yellowish red clay that has yellowish brown mottles

Substratum:
30 to 34 inches, light olive brown clay that has yellowish brown mottles

Bedrock:
34 inches, hard limestone

Important properties of the Talbott soil—

Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid or moderately acid
Flood hazard: None
Seasonal high water table: None
Depth to bedrock: 20 to 40 inches

Rock outcrop consists of areas where hard limestone crops out on the surface. In most areas it extends to a height of 1 to 3 feet.

Included with this Talbott soil in mapping are very small areas of soils that are less than 20 inches or more than 40 inches deep to bedrock.

Most areas of this soil are used as woodland. A few small areas are in pasture.

This soil is unsuited to row crops because of slope, the erosion hazard, rock outcrops, and a heavy clay subsoil. It is poorly suited to pasture and hay. The main limitation is rock outcrops that extend as much as 3 feet above the soil surface and limit

Figure 9.—Talbott-Rock outcrop complex, 2 to 15 percent slopes, is unsuited to most farm and urban uses. In most areas the Talbott soil in this unit is used as woodland.

the use of farm equipment. The soil is droughty, and yields will be reduced during periods of low rainfall.

This soil is poorly suited to use as commercial woodland. Productivity is low. Plant competition is a management concern. Eastern redcedar can be grown for local use. In many places rock outcrops can interfere with equipment use. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is poorly suited to most urban and residential uses. Rock outcrops, depth to bedrock, moderately slow permeability, shrink-swell potential, and low strength are the main limitations.

The Talbott soil is in capability subclass 7s. Rock outcrop has not been assigned a capability subclass.

Tu—Tupelo silt loam, occasionally flooded

This is a very deep, somewhat poorly drained soil on nearly level stream terraces.

Typical profile of the Tupelo soil—

Surface layer:
0 to 9 inches, brown silt loam

Subsoil:
9 to 48 inches, yellowish brown clay that has brownish gray and yellowish red mottles

Substratum:
48 to 60 inches, mottled yellowish brown, light olive brown, and gray clay

Important properties of the Tupelo soil—

Permeability: slow
Available water capacity: High
Soil reaction: Strongly acid or moderately acid in the surface layer and subsoil; strongly acid to slightly alkaline in the substratum
Flood hazard: Occasional; brief duration; December-April
Seasonal high water table: 1.0 to 2.0; December-April
Depth to bedrock: More than 60 inches

Included with this Tupelo soil in mapping are small areas of poorly drained soils. Also included are small areas of moderately well drained soils.

Most areas of this soil are in pasture or row crops. A few areas are used as woodland.

This soil is suited to row crops and pasture if water-tolerant species are used. Planting crops later in spring when the hazard of flooding is reduced is recommended. Wetness causes problems for early seedbed preparation and timely harvesting. Grazing when the soil is wet causes surface compaction and poor tilth. Using rotational grazing or reducing stocking rates during wet periods helps to keep the pasture and soil in good condition.

This soil is well suited to production of bottomland hardwoods. Eastern cottonwood is suitable to plant. The equipment limitation, seedling mortality, and plant competition are management concerns caused by seasonal wetness and flooding. Field operations during dry periods reduce damage to the soil. Planting hardy seedlings on raised beds increases survival rates. Site preparation, such as chopping, burning, and applying herbicides, helps to reduce plant competition.

This soil is not suited to most urban and residential uses because of wetness and flooding.

This soil is in capability subclass 3w.

Ur—Urban land

This map unit consists of areas where more than 85 percent of the surface is covered by houses, highways, buildings, streets, railroad yards, parking lots, air strips, or other urban structures. Most areas are in the business district of Shelbyville and other towns. The original soils and land surfaces have been cut, filled, and graded. Their natural characteristics have been altered or destroyed. Slope commonly ranges from 1 to 8 percent. Recommendations for use and management of this map unit require an onsite examination.

This unit has not been assigned a capability subclass.

W—Water

This map unit consists of areas inundated with water for all of the year and generally includes rivers, lakes, and ponds. No capability class is given for this map unit.

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Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

John L. Kazda, conservation agronomist, Natural Resources Conservation Service, helped to prepare this section.

This section suggests general management needed for crops and pasture in the survey area. It lists for each soil the estimated yields of the main crops and pasture plants. It explains the system of land capability classification of the Natural Resources Conservation Service. And, it describes prime farmland.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

The 1994 Bedford County Soil Conservation District Long-Range Plan estimated the acreages in crops. Bedford County had about 46,480 acres in crops, 121,400 acres in pasture and hay, and 118,000 acres in trees. The major cultivated crops were corn, soybeans, small grains, and grain sorghum.

Other crops well suited to the soils and climate of Bedford County are cotton, sunflowers, vegetables, strawberries, and other fruits. Wheat, the most common small grain, is also used as winter pasture or green manure. Oats, rye, and barley are grown on small acreages. They are harvested for grain or hay or are used for winter cover and pasture.

Pasture and hay crops are an integral part of dairy, beef, and horse operations. Most pastures consist of mixed fescue and white clover. Many pastures also include orchardgrass, timothy, and red clover. Surplus pasture is frequently harvested for hay on many operations throughout the county. Permanent pasture supplies most requirements for year-round grazing. But, acreages in sorghum-sudan hybrids and small grains are increasing for use as temporary summer and winter grazing.

The latest information on pasture and hay seedings and on crops and pasture management can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Erosion is a serious problem on soils in row crops on uplands. On soils that have a silty surface layer and are on slopes of 2 percent or more, erosion is a hazard. Examples are Bradyville, Harpeth, Lomond, Mountview, and Nesbitt soils.

When erosion removes the surface layer, productivity is reduced as part of the subsoil is incorporated into the plow layer. When erosion removes the surface layer on soils that have a clayey subsoil, the moisture supplying capacity of the soils is reduced. Erosion has damaged Braxton, Mimosa, Bradyville, and Talbott soils. Erosion also causes droughtiness and thus reduces productivity on Hillwood and other soils.

Erosion also transports sediment and pollutes water. Soil-borne nutrients and pesticides are also carried into the water.

Erosion control practices provide a protective surface cover, reduce runoff, and increase infiltration. A cropping system that keeps a vegetative cover on the surface for extended periods helps to control erosion to amounts where productivity is not reduced. Most farms in Bedford County have livestock enterprises that require pasture and hay. Legume and grass forage crops in the cropping system help to reduce erosion on sloping land, provide nitrogen for plant growth, and improve soil tilth. Contour stripcropping incorporates grasses and legumes in rotation with summer annual crops. On many soils in the county, it is effective in controlling erosion. Conservation tillage is also effective, especially on double-cropped small grain and soybeans or grain sorghum. Erosion control practices, along with practices such as grassed waterways, field borders, and diversions, are effective in conserving soil resources.

Detailed information about drainage is available from the Bedford County Soil Conservation District.

Soil fertility is naturally low on most soils on uplands. On flood plains, Arrington, Lynnville, Egam, Godwin, and Agee soils are naturally higher in soil fertility.

Yields per Acre

The average yields per acre that can be expected of the principal crops and pasture under a high level of management are shown in tables 5 and 6, respectively. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the tables. Absence of a yield indicates that the crop is not suited to or is not commonly grown on a particular map unit.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in tables 5 and 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by numbers 1 through 8. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are not likely to erode but have other limitations, impractical to remove, that limit their use. These soils have not been described in Bedford County.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation.

Class 7 soils have very severe limitations that make them unsuitable for cultivation.

Class 8 soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production. They have not been described in Bedford County.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); and *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

Class 1 has no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability classification of the map units in this survey area is given at the end of each map unit described in the section "Detailed Soil Map Units." It is also given in table 5, "Land Capability and Yields Per Acre of Crops," and in table 6, "Land Capability and Yields Per Acre of Pasture."

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 82,050 acres in the survey area, or nearly 28 percent of the total acreage, meets the soil requirements for prime farmland. Areas of prime farmland are scattered throughout the county. Prime farmland is used for row crops and pasture.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Woodland Management and Productivity

Joseph H. Paugh, forester, Natural Resources Conservation Service, helped to prepare this section.

Deciduous forest once covered most of Bedford County. Settlers cut the forests and cleared most cultivable areas. Most areas now wooded are too steep or rocky for practical farming. On some soils in wooded areas trees are of high quality if properly

managed. Wooded areas make up about 39 percent of the county. Almost all wooded areas are privately owned.

The largest areas of woodland are in general soil map units 6, 7, and 8, described in the section "General Soil Map Units."

The most common trees are mixed hardwoods, mainly upland oak and yellow poplar.

Many existing stands of commercial trees could be improved by thinning out excess trees or undesirable species. Restricting grazing, preventing forest fires, and controlling diseases and insects are also needed in improving stands. The Natural Resources Conservation Service, the Tennessee State Forestry Division, and the Cooperative Extension Service can help in determining specific woodland management needs.

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed.

In the table, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a number for *volume of wood fiber.* The site

index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil.

Suggested trees to plant are those suitable for commercial wood production.

Recreation

Many areas of scenic, geologic, and historical interest are located in Bedford County. They provide opportunities for picnicking, camping, hiking, boating, fishing, hunting, sightseeing, golfing, tennis, and other sports.

Many recreational areas are located on or near the Duck River. Federal, State, and local agencies provide public access to several of these areas.

Recreational areas are increasing and diversifying because of urban growth and development in Bedford County. Although topography in the county is varied, many soils are suited to recreational use (*6*).

The soils of the survey area are rated in table 9 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in the table can be supplemented by other information in this soil survey. For example, interpretations for dwellings without basements and for local roads and streets are given in table 10. Interpretations for septic tank absorption fields are given in table 11.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not

subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Populations of fish and wildlife in Bedford County are significant and varied. Common woodland wildlife species include whitetailed deer, gray squirrel, woodpeckers, gray and red fox, and raccoon. Bobwhite quail, cottontail rabbit, mourning dove, and many types of songbirds are attracted to openland areas. Muskrat and mink inhabit streams and wetlands. The Duck River supports various species of fish, including bass, crappie, and walleye.

Deer populations are moderate and increasing in Bedford County. Small game and bird populations are moderate and increasing where food and cover are available. Raccoon populations are fair and stable. Populations of such small game as rabbit and squirrel vary somewhat from year to year but remain moderate overall. In recent years several sightings of coyotes have occurred along the Duck River.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

Elements of Wildlife Habitat

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, orchardgrass, ryegrass, clover, Korean lespedeza, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, common ragweed, polkberry, and crotons.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are bush-honeysuckle, autumn-olive, bicolor lespedeza, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and cedar.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of

the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are mountainmahogany, bitterbrush, snowberry, and big sagebrush.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, rushes, sedges, and cattail.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

Habitat for Various Kinds of Wildlife

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas.

Habitat for rangeland wildlife consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to rangeland include antelope, deer, sage grouse, meadowlark, and lark bunting.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 11 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock or a very firm, dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the water table.

Dwellings without basements, *dwellings with basements*, and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, and shrink-swell potential can cause the movement of footings. A high water table, depth to bedrock, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 12 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Small stones and bedrock interfere with installation.

Unsatisfactory performance of septic tank

absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoon areas are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

The table gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, seepage, wetness caused by a high water table, depth to bedrock, flooding, small stones, and texture.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and small stones can hinder compaction of the lagoon floor.

Trench sanitary landfill and *area sanitary landfill* are areas where solid waste is disposed of by burying it in soil. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, wetness caused by a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, and soil reaction affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness caused by a high water table, small stones, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 13 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use

as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, and bedrock.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are naturally fertile or respond well to fertilizer and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel or stones, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel or stones, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table and permeability of the aquifer. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; and susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the depth of the root zone and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. Low available water capacity, restricted rooting depth, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

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Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 15 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

USDA texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Fragments are rock fragments larger than 10 inches in diameter and those 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing sieves number*is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and

Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical Properties of the Soils

Table 16 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Sand as a soil separate consists of individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. In this table, the estimated sand content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) is the ability of a soil to transmit water or air. The estimates indicate the rate of downward and lateral movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Ksat is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility, or swelling, is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water. Volume change varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of linear extensibility of soils in place. Linear extensibility of undisturbed clods were measured for many soils in the laboratory. For others soils, it was estimated on the basis of the kind and amount of clay minerals in the soil and on the basis of measurements of similar soils.

If the linear extensibility is rated moderate to very high, shrink-swell potential can cause damage to buildings, roads, and other structures. Special design is often needed.

Linear extensibility classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; *high*, 6 to 9 percent; and *very high*, more than 9 percent.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water

capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factor Kw indicates the susceptibility of a soil to sheet and rill erosion by water. Factor Kw is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of Kw range from 0.02 to 0.64. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kf is an adjunct to erosion factor K. Kf accounts for larger, less movable rock fragments. It allows for the effect of armoring or mulching of rock fragments on the surface and in the surface layer. For soils that do not have rock fragments, Kw and Kf are the same. Kf increases with an increase in the proportion that rock fragments occupy in the soil. An increased Kf indicates a lesser hazard of erosion.

Erosion factor T is an estimate of the maximum average annual rate of wind or water erosion that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Chemical Properties of the Soils

Table 17 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Cation-exchange capacity and *effective cation-exchange capacity* are measures of the soils's ability to retain cations. Such cations as calcium and potassium are plant nutrients. Soils that have a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizers and amendments than soils having a higher cation-exchange capacity.

Cation-exchange capacity is the amount of cations the soil can adsorb at pH 7.0. This measurement is reported for soils having a pH greater than 5.5. Effective cation-exchange capacity is the sum of the extractable bases plus aluminum reported for soils having a pH of less than 5.5. This measurement accounts for variable charge components in highly weathered soils.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Soil Features

Table 18 lists soil features that can influence how the soil is suited to or how it will behave under certain uses. These features are given for the whole soil or for certain layers. These features are based on field observations and on test data for these and similar soils.

Restrictive layer refers to layers in the soil observed in the field. These layers restrict root growth and reduce the movement of air and water through the soil.

Kind is the type of restriction, such as bedrock, for a moderately deep soil. Restrictive layers are observed and recorded for the extent of each soil during mapping. Bedrock restrictive layers are divided into lithic or paralithic. Lithic layers are hard bedrock. Blasting or special equipment generally is needed for excavation. Paralithic layers are weathered bedrock. Excavations can be done with trenching machines, backhoes, or small rippers.

Depth to top is the measurement in inches from the soil surface to the upper and lower boundaries of the restrictive layer. The depth to these layers is based on many borings in the field during mapping. Restrictive layers below a depth of 60 inches are not recognized.

Thickness is the distance, in inches, from top to bottom of the restrictive layer. Thickness of the restrictive layer is measured and recorded for each soil during mapping. A thickness is not reported when the restrictive material is bedrock.

Hardness is the rupture resistance of an air-dried, then submerged, block-like specimen of mineral material. The measurement is related to the force needed to crush the sample. Force ranges from very weakly cemented at one end of the scale to indurated at the other end of the scale. Very weakly cemented means the mineral material is crushable with moderate force applied between the thumb and forefinger. Indurated means the material cannot be crushed with a moderate blow from a hammer. The restrictive hardness and thickness of mineral material influence the ease of mechanical excavation of the soil.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture,

density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For *uncoated steel,* the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For *concrete,* the risk of corrosion is also expressed as *low, moderate,* or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 19 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic group refers to estimates of runoff potential for various soil groups. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Month indicates the months during which a water table, ponding, or flooding was observed.

Water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table are the months of the year that the water table commonly is high; the upper limit of the depth to the seasonal high water table; and the lower limit of the depth to the seasonal high water table. Depth is given to the nearest half foot. A water table that is seasonally high for less than 1 month is not indicated in the table.

Two numbers in the column showing depth to the upper limit of the water table indicate the normal range in depth to a saturated zone. The first numeral in the range indicates the highest water level. "More than 5.0" indicates that the water table is below a depth of 5 feet or that it is within a depth of 5 feet for less than a month.

Ponding is standing water in a closed depression. Evidence of ponding is gathered when the soils are mapped in an area. Indicators of ponding include water lines around tree trunks, the vegetation present, features on aerial photography, and soil profile characteristics. The susceptibility of the soil to ponding impacts land use for homes, building sites, and sanitary facilities. Timing and duration of ponding are critical factors impacting the plant species found in an area.

Surface water depth is reported as feet above the soil surface.

Duration is the average length of time that the ponding occurs. The classes are as follows: very brief, less than 2 days; brief, 2 to 7 days; long, 7 to 30 days; and very long, more than 30 days.

Frequency is the number of times ponding occurs over a period of time. None means no reasonable chance of ponding, or near 0 percent chance of ponding in any year. Rare means ponding is unlikely but possible under unusual weather conditions, from nearly 0 to 5 percent chance of ponding in any year or nearly 0 to 5 times in 100 years. Occasional means ponding is expected infrequently under usual weather conditions, from 5 to 50 percent chance of ponding in any year or nearly 5 to 50 times in 100 years. Frequent means ponding is likely to occur under usual weather conditions, from more than a 50 percent chance in any year or more than 50 times in 100 years.

Flooding, the temporary covering of the land surface, is caused by water. Rivers and streams cause flooding during periods of heavy rain.

Information on flooding has been gathered from many sources. The most precise evaluation of flooding in flood-prone areas is based on hydrologic studies. Key soil profile characteristics are thin strata of gravel or sand on the surface, an irregular decrease in organic carbon with depth, and little or no horizon development. They indicate that a soil is subject to flooding. Maps from the Federal Emergency Management Agency (FEMA) are also a source of information. Debris lines on the ground and debris hanging in trees observed during soil mapping are used in estimating flooding heights. Recollections of local residents are used in estimating depths and frequency of flooding along rivers and streams.

Probable months of occurrence, duration, and frequency are estimated.

Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

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Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*7*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, mixed, thermic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The Talbott series is an example of the fine, mixed, thermic family of Typic Hapludalfs.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (*9*). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (*7*) and in "Keys to Soil Taxonomy" (*8*). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Agee Series

The Agee series consists of very deep, poorly drained soils. These soils formed in clayey alluvium on flood plains. Slopes range from 0 to 2 percent.

Typical pedon of Agee silty clay loam, frequently flooded; 0.55 mile east of intersection of U.S. 41A and Taylor Crossroads; 210 feet north of Taylor Crossroads; 95 feet east of Taylor Branch:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; friable; common fine and medium roots; few fine pores; slightly alkaline; clear smooth boundary.
A1—9 to 18 inches; very dark gray (10YR 3/1) silty clay; few medium distinct dark yellowish brown (10YR 4/4) mottles; strong coarse prismatic structure parting to strong medium and coarse subangular blocky; very firm; common fine and medium roots; common fine and medium pores; few distinct slickensides and pressure faces; slightly alkaline; gradual smooth boundary.
Bg1—18 to 32 inches; dark grayish brown (2.5Y 4/2) clay; common medium prominent yellowish brown (10YR 5/6) mottles; strong coarse prismatic structure parting to strong medium and coarse subangular blocky; very firm; few fine roots; common fine pores; few distinct slickensides and pressure faces; slightly alkaline; gradual smooth boundary.
Bg2—32 to 47 inches; dark grayish brown (2.5Y 4/2) clay; common medium prominent dark yellowish brown (10YR 4/6) mottles; moderate coarse prismatic structure parting to strong medium and coarse subangular blocky; very firm; few fine roots; common fine pores; few distinct slickensides and pressure faces; slightly alkaline; gradual smooth boundary.
Cg—47 to 60 inches; dark grayish brown (2.5Y 4/2) clay; common medium faint very dark grayish brown (2.5Y 3/2) and common medium prominent brown (10YR 4/6) mottles; massive; very firm; slightly alkaline.

Depth to bedrock is more than 60 inches.

The A or Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. In most pedons it has brownish mottles. It is silty clay loam.

The Bg horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2. It has few to many mottles of higher chroma. It is silty clay or clay.

The Cg horizon has the same color and textures as the Bg horizon, or it is mottled without a dominant matrix color.

Arrington Series

The Arrington series consists of very deep, well drained soils. These soils formed in silty alluvial sediments on flood plains. Slopes range from 0 to 2 percent.

Typical pedon of Arrington silt loam, frequently flooded; 50 feet west of intersection of Bedford Lake Road and Red Hill Road along Red Hill Road; 0.7 mile south on farm lane; 36 feet north of farm lane; in a cornfield:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium granular structure; very friable; common fine and medium roots; few fine pores; slightly acid; abrupt smooth boundary.
A—7 to 16 inches; dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure parting to weak medium granular; friable; few fine roots; common fine and medium pores; slightly acid; abrupt smooth boundary.
Bw1—16 to 40 inches; dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure parting to moderate medium granular; friable; few fine roots; common fine and medium pores; slightly acid; gradual smooth boundary.
Bw2—40 to 60 inches; dark yellowish brown (10YR 3/4) silt loam; weak medium subangular blocky structure; friable; few fine roots; common fine and medium pores; slightly acid; clear smooth boundary.

Depth to bedrock is more than 60 inches.

The A horizon has hue of 10YR or 7.5YR, value of 3, and chroma of 2 or 3. It is silt loam.

The Bw horizon has hue of 10YR, value of 3, and chroma of 2 or 3, but in most pedons in the lower part it has chroma of 4. In some pedons it has brownish mottles. It is silt loam or silty clay loam.

Ashwood Series

The Ashwood series consists of moderately deep, well drained soils. These soils formed in residuum derived from limestone on uplands. Slopes range from 5 to 45 percent.

Typical pedon of Ashwood silt loam, in an area of Ashwood-Rock outcrop-Mimosa complex, 5 to 15 percent slopes, 1.35 miles west of intersection of Horse Mountain Road and Anthony Road; 120 feet north-northeast of Horse Mountain Road:

Oe—1 inch to 0; partly decomposed litter of leaves, stems, and twigs.
A1—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; common fine and medium roots; few fine pores; moderately acid; clear smooth boundary.
Bt1—6 to 9 inches; very dark brown (10YR 2/2) clay; very dark grayish brown (10YR 3/2) dry; moderate medium subangular blocky structure; firm; common fine and medium roots; common fine pores; few distinct clay skins; few distinct pressure faces; neutral; clear smooth boundary.

Bt2—9 to 12 inches; dark brown (10YR 3/3) clay, brown (10YR 4/3) dry; weak and moderate medium subangular blocky structure; firm; few fine and medium roots; common fine pores; common distinct clay skins; common distinct pressure faces; common root and worm channels filled with darker material from horizons above; neutral; clear smooth boundary.
Bt3—12 to 26 inches; dark yellowish brown (10YR 4/4) clay; weak and moderate medium subangular blocky structure; firm; few fine roots; common fine pores; many prominent clay skins; common distinct pressure faces; neutral; abrupt smooth boundary.
R—26 inches; hard phosphatic limestone.

Depth to bedrock ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 15 percent in the A and B horizons and from 5 to 25 percent in the BC and C horizons.

In most pedons the A and BA horizons and the upper part of the Bt horizon have hue of 7.5YR, 10YR, or 2.5Y; value and chroma of 2 or 3. They are silty clay but in most pedons silt loam or silty clay loam.

The Bt horizon below the mollic epipedon has hue of 7.5YR, 10YR, or 2.5Y, value of 4 or 5, and chroma of 3 to 6. In some pedons in the lower part it has mottles in shades of brown, olive, or gray. It is clay or silty clay.

Barfield Series

The Barfield series consists of shallow, well drained soils. These soils formed in residuum derived from limestone bedrock. Slopes range from 5 to 35 percent.

Typical pedon of Barfield silty clay loam, in an area of Barfield-Rock outcrop complex, 5 to 35 percent slopes, 0.8 mile east of intersection of Kellertown Road and White Road on White Road; north 0.2 mile on farm road; 25 feet west of farm road:

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; friable; common fine and medium roots; slightly alkaline; abrupt smooth boundary.
Bw1—5 to 11 inches; very dark grayish brown (10YR 3/2) clay; weak fine and medium subangular blocky structure parting to moderate medium granular; few fine and medium roots; few fine pores; slightly alkaline; clear smooth boundary.
Bw2—11 to 15 inches; very dark grayish brown (10YR 3/2) clay; common fine distinct olive brown (2.5Y 4/4) mottles; weak fine and medium subangular blocky structure; firm; few fine roots; few fine pores; slightly alkaline; clear smooth boundary.
BC—15 to 19 inches; olive brown (2.5Y 4/4) clay; common fine distinct light olive brown (2.5Y 5/6) mottles; weak fine subangular blocky structure parting to massive; firm; few fine roots; few fine pores; slightly alkaline; abrupt smooth boundary.
R—19 inches; hard limestone.

Depth to bedrock ranges from 10 to 20 inches.

The A and Bw horizons have hue of 10YR, value and chroma of 2 or 3. In some pedons in the lower part the Bw horizon has hue of 10YR or 2.5Y, value of 4, and chroma of 3 or 4. It is silty clay loam, silty clay, or clay.

The BC horizon, where it occurs, has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4. In some pedons it has mottles in shades of brown, olive, and yellow. It is silty clay or clay.

Bluestocking Series

The Bluestocking series consists of deep, moderately well drained soils on flood plains. These soils formed in thin deposits of silty alluvium and in the underlying very gravelly or extremely gravelly clayey sediment (fig. 10). Slopes range from 0 to 3 percent.

Typical pedon of Bluestocking silt loam, frequently flooded, 0.9 mile northwest of U.S. Highway 231 on

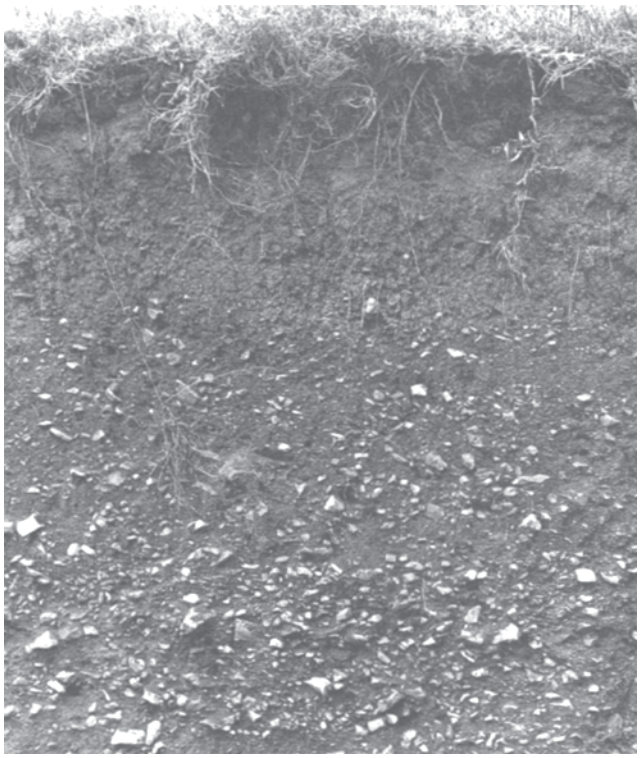

Figure 10.—Bluestocking silt loam, frequently flooded, is somewhat droughty because of the high content of gravel below the subsoil.

Robinson Road; 0.3 mile south; 110 feet west of Sugar Creek:

A1—0 to 12 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; few fine roots; few fine pores; about 5 percent, by volume, rounded gravel up to 1 inch across; slightly acid; abrupt smooth boundary.

A2—12 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; friable; few fine roots; common fine pores; about 5 percent, by volume, rounded gravel up to 1 inch across; neutral; clear smooth boundary.

A3—18 to 24 inches; very dark grayish brown (2.5Y 3/2) silty clay loam, brown (10YR 5/3) dry; common medium faint dark gray (10YR 4/1) mottles; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; about 5 percent, by volume, rounded gravel up to 1 inch across; neutral; clear smooth boundary.

AC—24 to 29 inches; very dark grayish brown (10YR 3/2) very gravelly silty clay loam; common medium faint dark gray (10YR 4/1) mottles; massive to weak fine subangular blocky structure; firm; few fine roots; common fine pores; about 50 percent, by volume, rounded gravel up to 2 inches across; neutral; clear smooth boundary.

C—29 to 58 inches; very dark grayish brown (10YR 3/2) extremely gravelly clay; common medium faint dark gray (10YR 4/1) mottles; massive; firm; few fine roots; common fine pores; about 90 percent, by volume, rounded gravel up to 2 inches across; neutral; abrupt wavy boundary.

R—58 inches; unweathered limestone.

Depth to bedrock ranges from 40 to 60 inches. Gravel 0.5 to 2 inches in diameter makes up, by volume, less than 5 percent of the upper part of the A horizon in most pedons, but the range is 0 to 15 percent. Gravel makes up 35 to 60 percent of the AC horizon and of the B horizon, where it occurs, and 45 to 90 percent of the C horizon. The A, AC, and B horizons are each slightly acid or neutral.

The A horizon has hue of 10YR or 7.5YR, value and chroma of 2 or 3. In most pedons in the lower part it has few or common faint brown or gray mottles. It is silt loam in the upper part and silty clay loam, silty clay, or clay in the lower part.

The AC horizon has colors similar to those of the A horizon. In the fine earth fraction it is silty clay loam, silty clay, or clay. In most pedons it has mottles in shades of gray. The A and AC horizons combined range from 15 to 30 inches in thickness.

The Bw horizon, where it occurs, has hue of 10YR or 2.5YR, value and chroma of 3 or 4. In most pedons it has faint mottles in shades of brown or gray. In the fine earth fraction it is silty clay loam, silty clay, or clay.

The C horizon, where it occurs, has hue of 10YR or 2.5YR, value of 3 to 5, and chroma of 3 or 4. It has few or common mottles in shades of brown, yellow, and gray. In the fine earth fraction it is silty clay loam, silty clay, or clay.

Bradyville Series

The Bradyville series consists of deep, well drained soils on uplands. These soils formed in a thin silty mantle and in residuum derived from limestone. Slopes range from 0 to 12 percent.

Typical pedon of Bradyville silt loam, 2 to 5 percent slopes, eroded, 0.38 mile east of intersection of Parson Road and Pinkston Road on Pinkston Road; 315 feet north of Pinkston Road; in a hayfield:

Ap—0 to 6 inches; brown (7.5YR 4/4) silt loam; moderate fine granular structure; friable; common fine and very fine roots; many fine and very fine pores; few medium manganese concretions; slightly acid; abrupt smooth boundary.

Bt1—6 to 20 inches; yellowish red (5YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; few fine and very fine roots; many fine and very fine pores; few faint clay films on faces of peds; few medium manganese concretions; slightly acid; gradual wavy boundary.

Bt2—20 to 26 inches; red (2.5YR 4/6) clay; common fine faint yellowish red (5YR 4/6) mottles; moderate fine and medium subangular blocky structure; friable; few fine and very fine roots; many fine and very fine pores; common distinct clay films on faces of peds; common medium manganese concretions; strongly acid; clear wavy boundary.

Bt3—26 to 32 inches; red (2.5YR 4/6) clay; common fine distinct strong brown (7.5YR 4/6) mottles; strong fine and medium subangular blocky structure; firm; few very fine roots; common fine and very fine pores; common medium manganese concretions; many distinct clay films on faces of peds; strongly acid; clear smooth boundary.

Bt4—32 to 43 inches; yellowish red (5YR 4/6) clay; many medium distinct red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; firm; few very fine roots; few very fine and fine pores; common medium manganese concretions; many distinct clay films on faces of peds; moderately acid; clear smooth boundary.

BC—43 to 50 inches; yellowish red (5YR 4/6) clay; common medium distinct red (2.5YR 4/6) and few fine prominent yellowish brown (10YR 5/6) mottles; massive in place parting to weak medium subangular blocky structure; firm; common medium manganese stains and concretions near top of horizon; slightly alkaline; abrupt irregular boundary.
R—50 inches; hard limestone.

Depth to bedrock ranges from 40 to 60 inches. In most pedons the subsoil has few or common black concretions and stains.

The A horizon has hue of 7.5YR or 10YR, value and chroma of 3 or 4. It is silt loam.

The Bt horizon has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 4 to 8. It is silty clay or clay, but in most pedons in the upper 4 to 15 inches it is silty clay loam. In most pedons in the lower part it has mottles in shades of brown or red.

The BC horizon and C horizon, where it occurs, have hue of 7.5YR, 5YR, or 2.5YR, value of 4 or 5, and chroma of 4 to 8. In most pedons they are mottled in shades of brown, red, or gray.

Braxton Series

The Braxton series consists of very deep, well drained, clayey soils on old, high stream terraces along the Duck River and its tributaries. These soils formed in old clayey alluvium or valley fill and in residuum derived from limestone. Slopes range from 2 to 20 percent.

Typical pedon of Braxton silt loam, 2 to 5 percent slopes, eroded, 1.0 mile east of intersection of U.S. Highway 41A and Highway 64 on U.S. Highway 41A; right on Mullins Mill Road 0.3 mile; right fork on Shofner Bridge Road 0.8 mile; 1,125 feet east; in a hayfield:

Ap—0 to 7 inches; dark brown (10YR 4/3) silt loam; weak medium granular structure; friable; common fine and medium roots; few fine pores; few fine and medium manganese concretions; slightly acid; abrupt smooth boundary.
Bt1—7 to 15 inches; yellowish red (5YR 4/6) silty clay; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few fine and medium manganese concretions; common distinct clay films on ped faces; slightly acid; gradual smooth boundary.
Bt2—15 to 30 inches; yellowish red (5YR 4/8) clay; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few fine and medium manganese concretions; common distinct clay films on faces of peds; slightly acid; clear wavy boundary.
Bt3—30 to 60 inches; yellowish red (5YR 4/8) clay; moderate medium subangular blocky structure; firm; few fine roots in the upper part; few fine pores; few fine and medium manganese concretions; many prominent clay films on faces of peds; slightly acid.

Depth to bedrock is more than 60 inches. Chert fragments range from 0 to 15 percent throughout.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4. In pedons where value is 3 and chroma is 2, it is less than 7 inches thick. It is silt loam except in severely eroded areas, where it is silty clay loam. In severely eroded areas it has hue of 5YR, value of 4 or 5, and chroma of 4 or 6.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. It is silty clay or clay, but in some pedons in the upper few inches it is silty clay loam. In some pedons in the lower part it has mottles in shades of red or brown.

Capshaw Series

The Capshaw series consists of very deep, moderately well drained soils on stream terraces and broad uplands. These soils formed in a thin layer of loess or old alluvium and in the underlying clayey residuum. Slopes range from 0 to 5 percent.

Typical pedon of Capshaw silt loam, 2 to 5 percent slopes, 5.6 miles north of U.S. Highway 41A on Longview Road; 2,200 feet west of Longview Road:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and medium roots; many fine and medium pores; common fine and medium rounded manganese concretions; moderately acid; abrupt smooth boundary.
BE—7 to 13 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; many fine and medium pores; common fine and medium iron and manganese concretions; common worm and root channels that are filled with soil material from above and that extend into the horizon below; strongly acid; clear smooth boundary.
Bt1—13 to 19 inches; yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; common fine and medium pores; common fine and medium iron and manganese concretions; few faint clay films on faces of peds; few worm and root channels

filled with soil material from the surface layer; strongly acid; clear smooth boundary.

Bt2—19 to 27 inches; yellowish brown (10YR 5/6) clay; weak fine prismatic structure parting to moderate medium subangular blocky; common fine roots flattened and growing between prisms; few fine roots in prisms; few fine and medium pores; common fine and medium iron and manganese concretions; common distinct clay films on faces of peds; strongly acid; clear smooth boundary.

Bt3—27 to 33 inches; yellowish brown (10YR 5/6) clay; common medium distinct light brownish gray (10YR 6/2) mottles; weak medium and coarse subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; common fine and medium iron and manganese concretions; strongly acid; clear smooth boundary.

Bt4—33 to 48 inches; yellowish brown (10YR 5/6) clay; few medium prominent yellowish red (5YR 4/8), common medium distinct light brownish gray (10YR 6/2), and pale brown (10YR 6/3) mottles; weak medium and coarse subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; common fine and medium iron and manganese concretions; strongly acid; gradual smooth boundary.

BC—48 to 53 inches; light olive brown (2.5Y 5/4) clay; common medium distinct grayish brown (10YR 5/2) mottles; massive in place parting to weak medium and coarse subangular blocky structure; firm; few fine roots; many fine and medium iron and manganese concretions; strongly acid; clear wavy boundary.

C—53 to 60 inches; light olive brown (2.5Y 5/4) clay; common medium distinct grayish brown (10YR 5/2) mottles; massive; firm; many fine and medium iron and manganese concretions; moderately acid.

Depth to limestone bedrock is more than 60 inches.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It is silt loam.

In most pedons the BE horizon has colors and textures similar to those in adjacent horizons.

The Bt horizon has hue of 10YR, value of 5, and chroma of 4 or 6. Below a depth of 10 inches it has few to many mottles of chroma of 2 or less. In most pedons in the lower part it has few or common mottles in shades of red or brown. In the upper part it is silty clay loam, silty clay, or clay. In the lower part it is silty clay or clay.

In most pedons a BC horizon has colors and textures similar to those of adjacent horizons.

The C horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 3 or 4. It has mottles in shades of brown and gray with or without a dominant color. It is clay.

Colbert Series

The Colbert series consists of deep, moderately well drained soils on uplands in the inner part of the Nashville Basin. These soils formed in residuum derived from limestone bedrock. Slopes range from 1 to 12 percent.

Typical pedon of Colbert silt loam, 1 to 5 percent slopes, 0.3 mile east on Trott Road from intersection with Barber Road; 50 feet north of Trott Road:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; common fine and very fine pores; slightly acid; abrupt smooth boundary.

Bt1—6 to 11 inches; yellowish brown (10YR 5/6) clay; common medium distinct brown (10YR 4/3) mottles; weak fine subangular blocky structure; firm; few fine roots; common fine and very fine pores; few faint yellowish brown (10YR 5/8) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—11 to 35 inches; yellowish brown (10YR 5/6) clay; weak medium prismatic structure parting to weak medium subangular blocky; firm; few fine roots; common very fine pores; common distinct pressure faces and slickensides increasing with depth; common fine manganese concretions and stains; strongly acid; gradual smooth boundary.

BC—35 to 46 inches; yellowish brown (10YR 5/6) clay; many fine and medium prominent grayish brown (10YR 5/2) and light gray (10YR 7/2) mottles; massive in place parting to weak medium subangular blocky structure; firm; few fine roots; few very fine pores; many fine manganese concretions and stains; few fine calcium carbonate concretions at top of horizon; slightly acid; abrupt smooth boundary.

R—46 inches; hard limestone.

Depth to bedrock ranges from 40 to 60 inches.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. It is silt loam.

The Bt horizon has hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 4 to 8. In some pedons in the

lower part it has few to many mottles in shades of red, gray, and brown. It is silty clay or clay.

The BC horizon and the C horizon, where it occurs, have hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 2 to 8. In most pedons they are mottled in shades of brown and gray. They are silty clay or clay.

Dellrose Series

The Dellrose series consists of very deep, well drained soils. These soils formed in colluvium on foot slopes along the base of the Highland Rim Escarpment. Slopes range from 5 to 45 percent.

Typical pedon of Dellrose gravelly silt loam, 20 to 45 percent slopes; northwest 1.6 miles along Lazy Branch Road from intersection with Bedford Lake Road; 50 feet into woodland:

A1—0 to 4 inches; dark brown (7.5YR 3/2) gravelly silt loam; moderate medium granular structure; friable; common fine and very fine roots; few fine pores; about 20 percent chert fragments up to 2 inches across; slightly acid; abrupt smooth boundary.

A2—4 to 7 inches; dark brown (10YR 3/3) gravelly silt loam; moderate medium granular structure; friable; common fine and very fine roots; few fine pores; about 20 percent fragments of chert up to 2 inches across; slightly acid; clear smooth boundary.

BA—7 to 13 inches; brown (7.5YR 4.4) gravelly silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; few fine pores; about 20 percent chert fragments up to 2 inches across; moderately acid; clear smooth boundary.

Bt1—13 to 21 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; weak fine subangular blocky structure; friable; few fine roots; few fine pores; few distinct clay films on faces of peds; about 25 percent chert fragments up to 2 inches in diameter; moderately acid; gradual smooth boundary.

Bt2—21 to 52 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; few medium distinct light brown (7.5YR 6/4) mottles; friable; few fine roots; common fine pores; few distinct clay films on faces of peds; about 25 percent fragments of chert up to 2 inches across; moderately acid; gradual smooth boundary.

2Bt3—52 to 60 inches; strong brown (7.5YR 5/6) gravelly clay; few fine distinct light brown (7.5YR 6/4) mottles; moderate medium subangular blocky structure; friable; few fine pores; common distinct clay films on faces of peds; about 30 percent chert fragments up to 4 inches in diameter; strongly acid.

Depth to bedrock is more than 60 inches. Chert fragments range, by volume, from 10 to 35 percent in each horizon except the 2B horizon, where they range from 0 to 35 percent.

The A horizon has hue of 10YR or 7.5YR, value of 3, and chroma of 2 to 4. In the fine earth fraction it is silt loam.

In most pedons the BA horizon has colors and textures similar to those of the Bt1 horizon.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons it has subhorizons that have hue of 5YR, value of 4, and chroma of 4 to 8. In the fine earth fraction it is silty clay loam or silt loam.

The 2Bt horizon, where it occurs, has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is gravelly clay.

Eagleville Series

The Eagleville series consists of moderately deep, somewhat poorly drained soils in the inner part of the Nashville Basin. These soils formed in clayey alluvium on flood plains. Slopes range from 0 to 2 percent.

Typical pedon of Eagleville silty clay loam, frequently flooded, 4 miles east of U.S. Highway 41A on Unionville-Deason Highway; 0.5 mile north on private drive to dwelling, 900 feet northwest of dwelling and 50 feet east of stream:

Ap—0 to 6 inches; very dark brown (10YR 2/2) silty clay loam; moderate medium granular structure; friable; common fine roots; few fine manganese concretions; moderately acid; clear smooth boundary.

A1—6 to 11 inches; black (10YR 2/1) silty clay; moderate medium granular structure; firm; common fine roots; few fine manganese concretions; moderately acid; clear smooth boundary.

A2—11 to 16 inches; very dark gray (10YR 3/1) clay; strong very coarse prismatic structure parting to weak fine subangular blocky; very firm; common fine roots along prism faces and few fine roots in prism interior; common fine and medium manganese concretions; slightly acid; clear smooth boundary.

Bg—16 to 32 inches; grayish brown (2.5Y 5/2) clay; common medium distinct light olive brown (2.5Y 5/6) mottles; moderate very coarse prismatic

structure parting to moderate medium angular blocky; very firm; few fine roots along prism faces; common fine and medium manganese concretions; slightly alkaline; abrupt smooth boundary.
R—32 inches; hard limestone.

Depth to bedrock ranges from 20 to 40 inches.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. It is silty clay loam in the upper part and silty clay or clay in the lower part.

The Bg horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or less. It has few or common mottles of higher chroma. It is silty clay or clay.

Egam Series

The Egam series consists of very deep, well drained soils. These soils formed in fine textured alluvium on flood plains throughout the Nashville Basin. Slopes range from 0 to 2 percent.

Typical pedon of Egam silt loam, frequently flooded; 0.1 mile due north of Duck River and 0.3 mile due east of Dement Road; in a hayfield:

Ap—0 to 10 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common fine and very fine roots; common fine and very fine pores; slightly acid; abrupt smooth boundary.
A2—10 to 20 inches; very dark brown (10YR 2/2) clay, very dark gray (10YR 3/1) dry; dark brown (10YR 3/3) silt flows in old root channels and between peds; moderate to coarse fine and medium subangular blocky structure; friable; common fine and very fine roots; common fine and very fine pores; neutral; gradual smooth boundary.
Bw1—20 to 42 inches; very dark grayish brown (10YR 3/2) clay, dark grayish brown (10YR 4/2) dry; strong medium and coarse subangular blocky structure; friable; common fine and very fine roots; common very fine pores; neutral; gradual smooth boundary.
Bw2—42 to 60 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; friable; few fine and very fine roots; common very fine pores; neutral.

Depth to bedrock is more than 60 inches.

The A horizon has hue of 10YR, value and chroma of 2 or 3. It is silt loam.

The Bw horizon has hue of 10YR, value and chroma of 2 or 3. It is silty clay loam.

Gladeville Series

The Gladeville series consists of very shallow, well drained soils on uplands in the inner part of the Nashville Basin. These soils formed in residuum derived from thin-bedded, flaggy limestone. Slopes range from 2 to 15 percent.

Typical pedon of Gladeville very flaggy silty clay loam, in an area of Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst; 0.7 mile southwest of Poplin Cross Road on Old Columbia Road; 200 feet north of Old Columbia Road:

A1—0 to 2 inches; very dark grayish brown (10YR 3/2) very flaggy silty clay loam; moderate medium granular structure; friable; many fine roots; about 40 percent flags and channers of limestone 1 to 3 inches thick and 3 to 10 inches long; neutral; clear smooth boundary.
A2—2 to 6 inches; dark brown (10YR 3/3) flaggy clay; moderate fine subangular and angular blocky structure; firm; common fine roots; about 50 percent flags and channers of limestone 1 to 2 inches thick and 3 to 10 inches long; neutral; clear smooth boundary.
BC—6 to 10 inches; dark brown (7.5YR 4/4) flaggy clay; strong medium and coarse angular blocky structure parting to massive; very firm; common medium and coarse roots; few pressure faces; about 50 percent flags and channers of limestone 1 to 2 inches thick and 3 to 10 inches long; neutral; clear smooth boundary.
R—10 inches; hard, thin-layered limestone.

Depth to bedrock ranges from 3 to 10 inches. Fragments of limestone make up 35 to 65 percent of the soil profile.

The A horizon has hue of 10YR, value of 3, and chroma 1 to 3; or, it has hue of 7.5YR, value 3, and chroma of 2. In the fine earth fraction it is silty clay loam, silty clay, or clay.

The BC horizon or the C horizon, where it occurs, has hue of 7.5YR or 10YR, value of 4, and chroma of 3 or 4. In the fine earth fraction it is silty clay loam, silty clay, or clay.

Godwin Series

The Godwin series consists of very deep, somewhat poorly drained soils on flood plains. These soils formed in fine textured alluvium washed from soils derived from limestone. They are in scattered areas throughout the Nashville Basin. Slopes range from 0 to 2 percent.

Typical pedon of Godwin silt loam, frequently flooded, 0.3 mile from intersection of Manire Road and U.S. Highway 41A; about 520 feet south of Manire Road; 75 feet west of Clem Creek:

Ap—0 to 7 inches; dark brown (10YR 3/3) silt loam; moderate medium granular structure; very friable; common fine roots; common fine pores; slightly acid; clear smooth boundary.

A—7 to 19 inches; very dark gray (10YR 3/1) silty clay; moderate medium subangular blocky structure; friable; few fine roots; few fine pores; neutral; clear smooth boundary.

Bw—19 to 30 inches; very dark gray (10YR 3/1) clay; few medium distinct dark gray (10YR 5/1) and few fine prominent dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; slightly alkaline; clear smooth boundary.

Cg—30 to 60 inches; dark grayish brown (10YR 4/2) clay; common medium distinct olive brown (2.5Y 4/4) and gray (10YR 5/1) mottles; massive; firm; slightly alkaline; abrupt smooth boundary.

Depth to bedrock is more than 60 inches.

The Ap and A horizons have hue of 10YR or 7.5YR, value and chroma of 2 or 3. They are silt loam.

The Bw horizon has hue of 10YR, value of 2 or 3, and chroma of 1. In most pedons it has distinct or prominent mottles. It is silty clay loam or silty clay.

The Cg horizon and C horizon, where it occurs, have hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2. They have few to many distinct and prominent mottles of higher chroma. They are silty clay or clay.

Harpeth Series

The Harpeth series consists of very deep, well drained soils on high stream terraces. These soils formed in a silty mantle of loess or alluvium overlying residuum derived from limestone. Slopes range from 0 to 12 percent.

Typical pedon of Harpeth silt loam, 2 to 5 percent slopes; 0.75 mile southeast of Fairfield to intersection of Kellerton Road and Jackson Drive; 200 feet southeast of intersection; in a pasture:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and very fine roots; common fine and very fine pores; slightly acid; abrupt smooth boundary.

BA—7 to 15 inches; brown (7.5YR 4/4) silt loam; few fine distinct brown (10YR 4/3) mottles; weak fine subangular blocky structure; friable; common fine and very fine roots; common fine and very fine pores; slightly acid; gradual smooth boundary.

Bt1—15 to 28 inches; strong brown (7.5YR 4/6) silty clay loam; weak fine subangular blocky structure; friable; few fine and very fine roots; common fine pores; common distinct clay films on faces of peds; common fine manganese concretions; slightly acid; gradual smooth boundary.

Bt2—28 to 40 inches; strong brown (7.5YR 4/6) silty clay loam; common fine distinct yellowish brown (10YR 5/4) mottles in lower part of horizon; moderate medium and coarse subangular blocky structure; friable; few fine and very fine roots; common fine pores; many distinct clay films on faces of peds; about 5 percent, by volume, weathered gravel; slightly acid; gradual wavy boundary.

2Bt3—40 to 60 inches; yellowish red (5YR 4/6) clay; strong fine and medium subangular blocky structure; friable; few fine pores; many faint clay films on faces of peds; about 10 percent, by volume, weathered gravel up to 2 inches in diameter; slightly acid.

Depth to bedrock is more than 60 inches. Content of gravel ranges from 0 to 10 percent in the A and Bt horizons and from 0 to 15 percent in the 2Bt horizon. In most pedons a transitional horizon has colors and textures similar to those of adjacent horizons.

The Ap horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 3 or 4. In some pedons the surface layer is less than 7 inches thick and has hue of 10YR or 7.5YR, value of 3, and chroma of 2 or 3.

The Bt horizon has hue of 7.5YR or 5YR, value of 4 or 5, and chroma of 4 or 6. It is silt loam or silty clay loam. In some pedons it has few or common brownish mottles.

The 2Bt horizon has hue of 10YR, 7.5YR, or 5YR, value of 4 or 5, and chroma of 4 or 6. It is clay loam or silty clay loam.

Hawthorne Series

The Hawthorne series consists of moderately deep, somewhat excessively drained, gravelly soils on uplands. These soils formed in residuum derived from interbedded siltstone and gravelly limestone (fig. 11). Slopes range from 5 to 45 percent.

Typical pedon of Hawthorne gravelly silt loam, 15 to 45 percent slopes; 100 yards southeast on Mount Kirby Road from intersection with Hart Road; 50 feet south of Mount Kirby Road; in an abandoned pit:

O—1 inch to 0; very dark brown (10YR 2/2) loose

Figure 11.—Hawthorne gravelly silt loam, 15 to 45 percent slopes, is better suited to use as woodland than to most other uses. The high content of gravel and the underlying thin layers of interbedded rock restrict available water holding capacity and root growth.

leaves, twigs, and partly decomposed organic matter.

A1—0 to 4 inches; brown (10YR 4/3) gravelly silt loam; weak fine granular structure; friable; many fine and medium roots; many very fine and fine pores; about 20 percent, by volume, angular chert fragments up to 4 inches in diameter; strongly acid; abrupt smooth boundary.

E—4 to 11 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak medium granular structure; friable; common fine and medium roots; many fine and very fine pores; about 20 percent, by volume, angular chert fragments up to 4 inches in diameter; very strongly acid; gradual smooth boundary.

Bw—11 to 17 inches; brown (7.5YR 4/4) very gravelly silt loam; moderate medium subangular blocky structure; friable; common medium and few fine roots; common fine pores; about 45 percent, by volume, angular chert fragments up to 5 inches in diameter; strongly acid; clear smooth boundary.

C—17 to 25 inches; strong brown (7.5YR 5/6) very gravelly silty clay loam; common medium distinct yellowish brown (10YR 5/4) and brown (7.5YR 4/4) mottles; massive; friable; few medium roots; common fine pores; about 60 percent, by volume, angular chert fragments up to 5 inches in diameter; strongly acid; abrupt smooth boundary.

Cr—25 to 60 inches; alternating strata of hard, fractured chert and dense, platy, weathered

siltstone interlayered with thin seams of silty clay loam to clay soil material less than 3 inches thick; few medium plant roots along fractures and cracks; very strongly acid.

Depth to rippable bedrock ranges from 20 to 40 inches. Reaction ranges from strongly acid to extremely acid. Content of rock fragments ranges from 10 to 35 percent in the A horizon and from 35 to 60 percent in the B and C horizons. A transitional horizon has colors and textures similar to those of adjacent horizons.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. Where value and chroma are 3 or less, it is less than 7 inches thick. It is gravelly silt loam.

The E horizon, where it occurs, has hue of 10YR, value of 5 to 7, and chroma of 2 to 4. It is gravelly silt loam.

The Bw horizon and Bt horizon, where it occurs, has hue of 10YR or 7.5YR, value and chroma of 4 to 6. In the fine earth fraction it is silt loam or silty clay loam. It is mottled in shades of yellow, brown, and red.

The C horizon, where it occurs, has the same colors and textures as the B horizon.

The Cr horizon is mixed highly weathered siltstone and hard chert interlayered with thin seams of silty clay loam to clay. The weathered siltstone is platy and can be dug with a spade. The chert fragments range to 10 inches in diameter. The Cr horizon is highly variable. It ranges from alternating strata of weathered siltstone with or without chert to chert beds that, in some small areas, are intermixed with weathered siltstone.

Hillwood Series

The Hillwood series consists of very deep, well drained soils. These soils formed in gravelly to extremely gravelly alluvium on high terraces. Slopes range from 2 to 20 percent.

Typical pedon of Hillwood gravelly silt loam, 5 to 12 percent slopes; at an elevation of 2,300 feet; 40 degrees northeast of intersection of Harrison Road and Sims Road; in a pasture:

Ap—0 to 7 inches; dark brown (7.5YR 3/4) gravelly silt loam; weak fine granular structure; friable; few fine and very fine roots; few fine and very fine pores; about 20 percent gravel up to 3/4 inch in diameter; slightly acid; clear smooth boundary.

Bt1—7 to 13 inches; yellowish red (5YR 4/6) extremely gravelly silty clay loam; weak fine subangular blocky structure; friable; few fine and very fine roots; many fine and very fine pores; about 65 percent gravel up to 1 inch in diameter; few distinct clay films on faces of peds and on rock fragments; strongly acid; clear smooth boundary.

Bt2—13 to 42 inches; yellowish red (5YR 4/6) extremely gravelly clay; weak fine subangular blocky structure; firm; few fine and very fine roots; many fine and very fine pores; about 70 percent gravel up to 2 inches in diameter; common distinct clay films on faces of peds and on rock fragments; strongly acid; gradual wavy boundary.

Bt3—42 to 60 inches; yellowish red (5YR 4/6) extremely gravelly clay; common medium prominent yellowish brown (10YR 5/8) mottles; weak fine subangular blocky structure; firm; common very fine pores; about 65 percent gravel up to 2 inches in diameter; common distinct clay films on faces of peds and on rock fragments; many fine irregular manganese stains throughout the horizon; strongly acid; clear wavy boundary.

Depth to bedrock is more than 60 inches. Content of gravel ranges from 15 to 35 percent in the surface layer and from 35 to 80 percent in the subsoil.

The Ap horizon has hue of 10YR or 7.5YR, value and chroma of 3 or 4. Where it is thicker than 6 inches, value is 4 or more. In the fine earth fraction it is silt loam.

The Bt horizon has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 3 to 6. In the fine earth fraction it is silty clay loam, clay loam, or clay.

Lomond Series

The Lomond series consists of very deep, well drained soils on uplands. These soils formed in mixed loess and alluvium and in the underlying residuum derived from limestone. Slopes range from 0 to 5 percent.

Typical pedon of Lomond silt loam, 2 to 5 percent slopes; 0.4 mile east of U.S. Highway 41A on Unionville to Deason Highway; 0.4 mile north on private drive; 20 feet east of private drive:

Ap—0 to 8 inches; dark reddish brown (5YR 3/3) silt loam; weak fine granular structure; friable; common fine roots; few fine pores; slightly acid; clear smooth boundary.

Bt1—8 to 17 inches; yellowish red (5YR 4/6) silty clay loam; weak fine and medium subangular blocky structure; friable; few fine pores; few fine manganese concretions; few distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—17 to 25 inches; dark red (2.5YR 3/6) silty clay loam; moderate subangular blocky; friable; few fine

roots; common fine pores; few fine manganese concretions; few distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt3—25 to 46 inches; dark red (2.5YR 3/6) silty clay loam; common medium distinct yellowish red (5YR 4/6) mottles; moderate medium subangular and angular blocky structure; firm; few fine roots; common fine pores; few fine and medium manganese concretions; common distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

2Bt4—46 to 60 inches; red (5YR 4/6) silty clay; common medium distinct strong brown (7.5YR 5/6) and few medium prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular and angular blocky structure; firm; few limestone fragments 1/8 to 1 inch in diameter; common fine pores; few fine and medium manganese concretions; common distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Depth to bedrock is more than 60 inches. Depth to the 2B horizon ranges from 40 to 70 inches. Coarse fragments range from 0 to 5 percent in the A and B horizons and from 0 to 10 percent in the 2B horizon.

The A horizon has hue of 10YR to 5YR, value of 3, and chroma of 2 to 4. It is silt loam.

The Bt horizon has hue of 5YR or 2.5YR, value of 4, and chroma of 4 to 8, or it has hue of 2.5YR, value of 3, and chroma of 6. It is mostly silty clay loam, but it ranges to silt loam in the upper part and to silty clay or clay in the lower part.

The 2Bt horizon has hue of 5YR, value of 5, and chroma of 6. It has mottles in shades of brown or red. It is silty clay or clay.

Lynnville Series

The Lynnville series consists of very deep, moderately well drained soils on flood plains. These soils formed in silty alluvium. Slope ranges from 0 to 2 percent.

Typical pedon of Lynnville silt loam, frequently flooded; 0.75 mile west along Petersburg Highway from intersection with Sinking Creek Road; north 0.45 mile on Williams Road; 75 feet west of road; in pasture:

Ap—0 to 8 inches; dark brown (10YR 3/3) silt loam; moderate medium granular structure; friable; common fine and medium roots; common fine and very fine pores; about 5 percent rounded gravel up to 1/2 inch across; slightly acid; gradual wavy boundary.

A2—8 to 18 inches; dark brown (10YR 3/3) silt loam; common fine faint dark yellowish brown (10YR 4/4) mottles; moderate medium granular structure; friable; common fine and medium roots; common fine and very fine pores; about 2 percent rounded gravel up to 1/2 inch across; neutral; clear wavy boundary.

Bw1—18 to 30 inches; brown (10YR 4/3) silt loam; common fine and few medium distinct grayish brown (10YR 5/2) and common medium faint dark yellowish brown (10YR 4/4) mottles; weak medium prismatic structure parting to weak medium subangular blocky; friable; common fine and very fine roots; many fine and very fine pores; neutral; gradual wavy boundary.

Bw2—30 to 46 inches; brown (10YR 4/3) silt loam; many fine prominent strong brown (7.5YR 5/6), common medium distinct grayish brown (10YR 5/2), and common medium faint dark yellowish brown (10YR 4/4) mottles; moderate fine and medium subangular blocky structure; friable; few discontinuous alternating horizontal loamy striations less than 1/2 inch thick and in shades of brown and gray; few fine roots; many fine and very fine pores; common medium irregularly shaped manganese stains and nodules; neutral; gradual wavy boundary.

C—46 to 60 inches; mottled brown (10YR 4/3), grayish brown (10YR 5/2), and dark yellowish brown (10YR 4/4) silt loam; common discontinuous alternating horizontal loamy striations up to 1 inch thick in shades of brown and gray; massive in place parting to weak fine and medium subangular blocky; friable; many fine and very fine pores; many medium irregularly shaped manganese stains and nodules; neutral.

Depth to bedrock is more than 60 inches. Chert fragments range, by volume, from 0 to 10 percent.

The A horizon has hue of 7.5YR but in most pedons 10YR, value of 3, and chroma of 2 or 3. It is silt loam.

The Bw horizon, where it occurs, has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 or 4. It has mottles in shades of brown and gray. It is silty clay loam but is silt loam in most pedons.

The BC and CB horizons or the C horizon, where it occurs, has colors similar to those of the Bw horizon or is mottled in shades of gray and brown. In most pedons these horizons have loamy streaks and pockets in shades of brown and gray. They are silt loam or silty clay loam.

Melvin Series

The Melvin series consists of very deep, poorly drained soils. These soils formed in alluvium on flood

plains and in depressions. Slopes range from 0 to 2 percent.

Typical pedon of Melvin silt loam; frequently flooded; 1.0 mile southeast of intersection of U.S. Highway 41A and Highway 64 on U.S. Highway 41A; right on Mullins Mill Road 0.3 mile; right fork on Shofner Bridge Road 0.65 mile; about 600 feet east into a pasture:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common fine and very fine roots; few very fine pores; common fine manganese concretions; slightly acid; abrupt smooth boundary.

Bg1—6 to 12 inches; light brownish gray (10YR 6/2) silt loam; common fine prominent reddish brown (5YR 4/3) mottles; weak fine and medium subangular blocky structure; friable; common fine and very fine roots; few fine and very fine pores; common fine manganese concretions; neutral; abrupt wavy boundary.

Bg2—12 to 21 inches; light brownish gray (10YR 6/2) silt loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak fine prismatic structure; friable; few fine and very fine roots; common fine and very fine pores; few fine manganese concretions; neutral; clear smooth boundary.

Bg3—21 to 27 inches; gray (10YR 5/1) silt loam; common medium faint light grayish brown (10YR 5/2) and common medium distinct yellowish brown (10YR 5/4) mottles; weak medium prismatic structure; friable; few fine and very fine roots; common fine and very fine pores; few fine manganese concretions; slightly alkaline; clear wavy boundary.

Cg—27 to 60 inches; gray (10YR 5/1) silt loam; common medium prominent strong brown (7.5YR 5/8) and light olive brown (2.5Y 5/4) mottles; massive; friable; many fine and very fine pores; few fine manganese concretions; slightly alkaline.

Depth to bedrock is more than 60 inches. Content of coarse fragments ranges from 0 to 5 percent throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3. Some pedons have a thin A horizon that has hue of 10YR or 2.5Y, value of 3, and chroma of 2. The A horizon is silt loam.

The Bg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or less. It has mottles in shades of brown and red. It is silt loam.

The Cg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or less. It has mottles in shades of brown and red or in shades of gray, brown, and red. It is silt loam.

Melvin soils in Bedford County are in a thermic temperature regime. Although this characteristic is outside the range defined for the series, it does not significantly affect use or behavior of the soils.

Mimosa Series

The Mimosa series consists of deep, well drained soils. Permeability is slow. These soils formed in residuum derived from limestone on uplands. Slopes range from 2 to 45 percent.

Typical pedon of Mimosa silt loam, 2 to 5 percent slopes, eroded; 2,000 feet east of Webb School on Highway 82; right on Couch Lane 1.25 miles; about 1,100 feet east-southeast; in a pasture:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; common fine pores; neutral; abrupt smooth boundary.

Bt1—6 to 14 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; common fine roots; common fine pores; common distinct clay films on faces of peds; common distinct pressure faces; slightly acid; clear smooth boundary.

Bt2—14 to 22 inches; yellowish brown (10YR 5/8) clay; weak fine and medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; common distinct pressure faces; many fine and medium manganese concretions; slightly acid; clear smooth boundary.

Bt3—22 to 40 inches; yellowish brown (10YR 5/8) clay; common fine distinct yellowish brown (10YR 5/4) and brown (7.5YR 5/4) mottles; moderate fine and medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; many fine and medium manganese concretions; neutral; clear wavy boundary.

BC—40 to 49 inches; yellowish brown (10YR 5/4) clay; common fine distinct light brownish gray (10YR 6/2) mottles; massive in place parting to weak coarse subangular blocky structure; firm; few fine pores; few distinct clay films; common fine and medium manganese concretions and stains; about 5 percent small limestone fragments; neutral; clear wavy boundary.

C—49 to 54 inches; yellowish brown (10YR 5/6) clay; many medium distinct pale brown (10YR 6/3) and few medium distinct dark yellowish brown (10YR 4/4) and few fine prominent light brownish gray

(10YR 6/2) mottles; massive; firm; common fine and medium manganese stains and concretions; about 5 percent limestone fragments up to 5 inches across; slightly alkaline; abrupt smooth boundary.

R—54 inches; massive limestone.

Depth to bedrock ranges from 40 to 60 inches. Content of coarse fragments ranges from 0 to 5 percent throughout.

The Ap horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 or 4. It is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is silty clay or clay, but in some pedons in the upper few inches it is silty clay loam. In most pedons, below a depth of about 20 inches, it has mottles in shades of brown and red.

The BC and C horizons have hue of 10YR or 2.5Y, value of 5, and chroma of 4 or 6. It has mottles in shades of brown, red, and gray. It is silty clay or clay.

Mountview Series

The Mountview series consists of very deep, well drained soils. These soils formed in 2 to 3 feet of silty material overlying residuum derived from limestone on uplands. Slopes range from 2 to 12 percent.

Typical pedon of Mountview silt loam, 2 to 5 percent slopes, 0.2 mile south of Knob Creek Road on Union Ridge Road; 0.1 mile west on a field road; 85 feet north of field road; in a woodlot:

Oi—1 inch to 0; partly decomposed leaves, twigs, stems, and roots from mixed hardwoods.

A1—0 to 2 inches; brown (10YR 4/3) silt loam; common old root channels filled with dark brown (10YR 3/3) material; weak fine granular structure; very friable; many fine and medium roots; moderately acid; clear smooth boundary.

A2—2 to 7 inches; brown (10YR 4/3) silt loam; few old root channels filled with dark brown (10YR 3/3) material; moderate fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

BA—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; common fine and few medium roots; very strongly acid; clear smooth boundary.

Bt1—12 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; moderately medium subangular blocky structure; friable; common fine and medium roots; common distinct clay films on faces of peds; about 2 percent angular fragments of chert up to 3/4 inch across; very strongly acid; clear wavy boundary.

Bt2—20 to 32 inches; yellowish brown (10YR 5/6) silty clay loam; few fine prominent yellowish red (5YR 5/8) mottles in lower part; moderate medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; about 5 percent angular fragments of chert up to 3/4 inch across; very strongly acid; gradual smooth boundary.

2Bt3—32 to 47 inches; red (2.5YR 4/6) gravelly clay; common medium prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; about 15 percent angular chert fragments up to 3 inches across; very strongly acid; clear irregular boundary.

2Bt4—47 to 60 inches; red (2.5YR 4/6) gravelly clay; many medium prominent yellowish brown (10YR 5/6), yellowish red (5YR 5/6), and strong brown (7.5YR 5/6) mottles; few fine and medium prominent light gray (10YR 7/2) lithochromatic streaks and pockets; moderate medium subangular blocky structure; firm; few fine roots; many distinct clay films on faces of peds; about 30 percent angular fragments of chert up to 3 inches across; very strongly acid; clear wavy boundary.

Depth to bedrock is more than 60 inches. Content of coarse fragments, commonly chert, ranges from 0 to about 5 percent in the A and Bt horizons and from 5 to 35 percent in the 2Bt horizons.

The A horizon, or Ap horizon, where it occurs, has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It is silt loam.

The BA horizon, or AB horizon, where it occurs, has color and texture similar to those of adjacent horizons.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is silt loam or silty clay loam.

The 2Bt horizon has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 or 8. In most pedons it has mottles in shades of brown and red. In some pedons it does not have a dominant matrix color, but it is mottled in shades of brown, yellow, and red. In most pedons it has a few or common lithochromatic gray mottles below a depth of about 40 inches. In the fine earth fraction it is clay loam but in most pedons it is silty clay or clay.

Nesbitt Series

The Nesbitt series consists of deep, well drained soils on uplands and old terraces. These soils formed

in 2 to 3 feet of silty material and in the underlying residuum derived from limestone. Slopes range from 0 to 12 percent.

Typical pedon of Nesbitt silt loam, 0 to 2 percent slopes, 1,200 feet south of intersection of Unionville-Deason Road with U.S. Highway 231; about 500 feet west of U.S. Highway 231:

Ap—0 to 7 inches; brown (7.5YR 4/4) silt loam; weak fine granular structure; friable; common fine and very fine roots; common fine manganese concretions; moderately acid; abrupt smooth boundary.

Bt1—7 to 14 inches; strong brown (7.5YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; common fine and very fine roots; few faint clay films on faces of peds; common fine manganese concretions; moderately acid; clear smooth boundary.

Bt2—14 to 22 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine and very fine roots; common distinct clay films on faces of peds; many medium manganese concretions; moderately acid; clear smooth boundary.

Bt3—22 to 37 inches; yellowish brown (10YR 5/6) silty clay loam; common medium distinct strong brown (7.5YR 5/6) and light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; common fine and very fine roots; common distinct clay films on faces of peds; many fine manganese concretions; strongly acid; clear wavy boundary.

2Bt4—37 to 60 inches; yellowish brown (10YR 5/6) clay; common medium distinct light brownish gray (10YR 6/2) mottles; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; many prominent clay films on faces of peds; many fine and medium manganese concretions; strongly acid; clear smooth boundary.

Depth to bedrock is more than 60 inches. Content of coarse fragments range from 0 to 5 percent in the A and Bt horizons and from 0 to 10 percent in the 2Bt horizon.

The A horizon has hue of 7.5YR or 10YR, value of 4, and chroma of 3 or 4. It is silt loam.

The Bt horizon has hue of 7.5YR to 10YR, value of 4 or 5, and chroma of 6 to 8. In the lower part it has mottles in shades of brown and gray. It is silt loam or silty clay loam.

The 2Bt horizon has hue of 10YR to 5YR, value of 4 or 5, and chroma of 4 to 8. It has mottles in shades of brown, red, and gray. It is silty clay loam, silty clay, or clay.

Noah Series

The Noah series consists of deep, well drained soils on uplands. These soils formed in residuum derived from gravelly limestone. Slopes range from 5 to 45 percent.

Typical pedon of Noah gravelly silt loam, 5 to 15 percent slopes, 1,125 feet southwest of intersection of Joe Hart Road and Glendale Road:

A1—0 to 2 inches; dark brown (10YR 3/3) gravelly silt loam; weak fine granular structure; very friable; many fine and very fine pores; common fine and very fine pores; about 10 percent angular chert fragments up to 2 inches in diameter; extremely acid; clear smooth boundary.

A2—2 to 8 inches; brown (10YR 4/3) gravelly silt loam; moderate medium granular structure; friable; common fine and very fine roots; common fine and very fine pores; about 15 percent angular chert fragments up to 2 inches in diameter; strongly acid; clear smooth boundary.

BA—8 to 15 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak fine and medium subangular blocky structure; friable; common fine and very fine roots; common fine and very fine pores; about 15 percent angular chert fragments up to 2 inches in diameter; strongly acid; abrupt smooth boundary.

Bt1—15 to 23 inches; yellowish red (5YR 5/6) gravelly silty clay loam; common medium distinct reddish yellow (7.5YR 6/6) mottles; moderate medium subangular blocky structure; friable; few fine and very fine roots; common fine and very fine pores; many distinct red (2.5YR 4/6) clay films on faces of peds; about 25 percent angular chert fragments up to 2 inches in diameter; very strongly acid; clear smooth boundary.

Bt2—23 to 42 inches; yellowish red (5YR 5/6) gravelly silty clay loam; few medium distinct reddish yellow (7.5YR 6/6) and few medium prominent brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; friable; few fine and very fine roots; common fine and very fine pores; many distinct red (2.5YR 4/6) clay films on faces of peds; about 30 percent angular chert fragments up to 3 inches in diameter; very strongly acid; clear smooth boundary.

BC—42 to 54 inches; mottled yellowish red (5YR 5/6), brownish yellow (10YR 6/8), and reddish yellow (7.5YR 7/8) very gravelly silty clay loam; massive in place parting to weak fine and medium subangular blocky structure; firm; few fine and very fine roots; common fine and very fine pores;

about 45 percent angular fragments of chert and rock structure up to 3 inches in diameter; very strongly acid; abrupt smooth boundary.

Cr—54 to 60 inches; fractured chert layers interbedded with thin seams of weathered rock strata and thin bands of silty clay loam to clay. Few medium and fine roots in cracks between chert bands. About 50 percent angular chert fragments up to 5 inches in diameter.

Depth to rippable weathered bedrock is 40 to 60 inches. Depth to hard limestone bedrock is more than 60 inches. Content of rock fragments, commonly angular fragments of chert, ranges from 10 to 25 percent in the surface layer and from 15 to 35 percent in the subsoil. Content of rock fragments ranges to 60 percent in the substratum. Reaction ranges from strongly acid to extremely acid.

The A horizon has hue 10YR, value 3 to 5, and chroma of 2 to 4. Where value and chroma are less than 4, it is less than 7 inches thick. It is gravelly silt loam.

The BA horizon and BE horizon, where it occurs, have hue of 10YR or 7.5YR, value 5 or 6, and chroma 4 or 6. It is gravelly silt loam or gravelly silty clay loam.

The E horizon, where it occurs, has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. It is gravelly silt loam.

In most pedons the Bt horizon has hue 5YR or 2.5YR, value 4 or 5, and chroma 6 or 8. In some pedons in the upper part it has hue of 7.5YR, value 5, chroma of 6 or 8. In most pedons it has mottles in shades of brown, yellow, and red. It is gravelly silt loam or gravelly silty clay loam; the clay content increases with depth. In some pedons in the lower part it is gravelly silty clay or gravelly clay.

The BC horizon or C horizon, where it occurs, has the same colors and textures as the Bt horizon. It has few to many mottles in shades of red, yellow, and brown. Its boundary with the underlying Cr horizon is commonly abrupt.

The Cr horizon is mixed, highly weathered bedrock interlayered with seams of chert and silty clay loam to clay. A few roots are in cracks and seams.

Talbott Series

The Talbott series consists of moderately deep, well drained soils. These soils formed in residuum derived from limestone on uplands. Slopes range from 2 to 15 percent.

Typical pedon of Talbott silt loam, 2 to 5 percent slopes, eroded; 0.3 mile northeast from intersection of Old Columbia Road and Thompson Road on Thompson Road; 125 feet south of Thompson Road:

A1—0 to 4 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—4 to 10 inches; yellowish red (5YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine and medium roots; few fine pores; few distinct red (2.5YR 5/6) clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—10 to 30 inches; yellowish red (5YR 5/6) clay; common medium distinct mottles of yellowish brown (10YR 5/6); moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; few fine pores; many distinct red (2.5YR 5/6) clay films on faces of peds; strongly acid; clear smooth boundary.

C—30 to 34 inches; light olive brown (2.5Y 5/4) clay; common medium distinct yellowish brown (10YR 5/4) mottles; massive; firm; few limestone fragments up to 3 inches across; neutral; abrupt smooth boundary.

R—34 inches; hard limestone.

Depth to bedrock ranges from 20 to 40 inches. The content of rock fragments is generally less than 5 percent, but the range is 0 to 10 percent in all horizons.

The Ap or A horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 or 4. It is silt loam.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. It is silty clay or clay, but in the upper few inches it is silty clay loam. In the lower part it has mottles in shades of brown, yellow, and red.

The C horizon has hue of 2.5Y to 5YR, value of 4 to 6, and chroma of 4 to 8. It has few to many mottles in shades of brown, yellow, and red. In some pedons it is mottled without a dominant matrix color. It is silty clay or clay.

Tupelo Series

The Tupelo series consists of very deep, somewhat poorly drained soils on low stream terraces. These soils formed in old, clayey alluvium. Slopes range from 0 to 3 percent.

Typical pedon of Tupelo silt loam, occasionally flooded; 0.45 mile east on Kingdom Road from intersection with Longview Road; 500 feet north of Kingdom Road:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and very fine roots; common fine and very fine pores; neutral; abrupt smooth boundary.

Bt1—9 to 13 inches; yellowish brown (10YR 5/4) clay; common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common fine and very fine roots; common fine and very fine pores; common distinct clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—13 to 20 inches; yellowish brown (10YR 5/4) clay; common medium distinct light brownish gray (10YR 6/2); strong brown (7.5YR 5/6) and common medium prominent yellowish red (5YR 4/8) mottles; weak medium subangular blocky structure; firm; few fine and very fine roots; common fine and very fine pores; many distinct clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—20 to 48 inches; yellowish brown (10YR 5/6) clay; common medium distinct grayish brown (10YR 5/2), brown (10YR 5/3), and few fine prominent yellowish red (5YR 5/6) mottles; moderate medium prismatic structure parting to weak medium subangular blocky; firm; few fine and very fine roots; common fine and very fine pores; many distinct clay films on faces of peds; common fine and medium rounded manganese concretions; moderately acid; clear smooth boundary.

C—48 to 60 inches; mottled yellowish brown (10YR 5/6), light olive brown (2.5YR 5/4), and gray (10YR 6/1) clay; massive; firm; common fine and medium rounded manganese concretions; slightly alkaline.

Depth to bedrock is more than 60 inches. Concretions range from none to many in each horizon.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4. It is silt loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. It has mottles in shades of brown, red, and gray. It is silty clay or clay.

The C horizon is commonly mottled in shades of brown and gray. It is silty clay or clay.

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Glossary

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 2
Low	2 to 4
Moderate	4 to 6
High	more than 6

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to

deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained.* These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic).—Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated).—Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to pack (in tables). The texture makes the soil material unsuitable to create and compact a levee around a lagoon.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at

intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil."

A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rock fragments. Rock or mineral fragments having a

diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for complex slopes are as follows:

Nearly level	0 to 3 percent
Undulating	2 to 10 percent
Rolling	5 to 15 percent
Hilly	10 to 30 percent
Steep	20 to 70 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and

plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

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Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1951-84 at Shelbyville, Tennessee)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	48.2	27.8	38.0	72	-2	29	5.14	2.70	6.96	8	2.9
February	53.3	30.4	41.9	75	5	48	4.31	2.32	5.64	8	2.2
March	61.5	38.0	49.8	82	16	140	5.97	3.37	8.36	9	.5
April	72.6	47.1	59.9	88	26	303	4.91	2.64	6.72	7	.0
May	80.1	54.7	67.4	92	34	539	5.09	2.82	6.95	7	.0
June	87.1	62.2	74.7	98	46	741	3.77	1.68	5.40	7	.0
July	89.8	66.1	78.0	99	52	868	4.76	2.15	6.86	8	.0
August	89.4	65.0	77.2	99	52	843	3.74	1.32	5.52	6	.0
September	83.7	58.7	71.2	97	39	636	3.75	1.54	5.57	6	.0
October	73.6	46.4	60.0	90	26	322	3.51	1.26	5.32	5	.0
November	61.1	37.3	49.2	80	14	80	4.48	2.59	6.22	8	.4
December	52.1	31.2	41.7	73	5	40	4.89	2.25	6.74	8	.8
Yearly:											
Average	71.0	47.1	59.1	---	---	---	---	---	---	---	---
Extreme	---	---	---	107	-16	---	---	---	---	---	---
Total	---	---	---	---	---	4,589	54.32	47.29	61.34	87	6.8

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1951-84 at Shelbyville, Tennessee)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 4	Apr. 14	Apr. 30
2 years in 10 later than--	Mar. 28	Apr. 10	Apr. 24
5 years in 10 later than--	Mar. 15	Apr. 1	Apr. 14
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 26	Oct. 19	Oct. 6
2 years in 10 earlier than--	Oct. 31	Oct. 23	Oct. 11
5 years in 10 earlier than--	Nov. 11	Oct. 31	Oct. 21

Table 3.--Growing Season

(Recorded in the period 1951-84 at Shelbyville, Tennessee)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	218	198	171
8 years in 10	225	203	178
5 years in 10	240	212	190
2 years in 10	255	222	202
1 year in 10	262	227	208

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
Ag	Agee silty clay loam, frequently flooded	7,230	2.4
Ar	Arrington silt loam, frequently flooded	7,920	2.6
AsC	Ashwood-Rock outcrop-Mimosa complex, 5 to 15 percent slopes	8,080	2.7
AsE	Ashwood-Rock outcrop-Mimosa complex, 15 to 45 percent slopes	12,140	4.0
BaD	Barfield-Rock outcrop complex, 5 to 35 percent slopes	12,100	4.0
Bb	Bluestocking silt loam, frequently flooded	2,850	0.9
BdB2	Bradyville silt loam, 2 to 5 percent slopes, eroded	13,770	4.6
BdC2	Bradyville silt loam, 5 to 12 percent slopes, eroded	3,340	1.1
BnC	Bradyville-Urban land complex, 2 to 10 percent slopes	3,620	1.2
BrB2	Braxton silt loam, 2 to 5 percent slopes, eroded	4,280	1.4
BrC2	Braxton silt loam, 5 to 12 percent slopes, eroded	3,330	1.1
BxD3	Braxton silty clay loam, 12 to 20 percent slopes, severely eroded	1,050	0.3
CaA	Capshaw silt loam, 0 to 2 percent slopes	3,520	1.2
CaB	Capshaw silt loam, 2 to 5 percent slopes	12,700	4.2
CoB	Colbert silt loam, 1 to 5 percent slopes	2,200	0.7
CoC2	Colbert silt loam, 5 to 12 percent slopes, eroded	1,060	0.3
DeC	Dellrose gravelly silt loam, 5 to 12 percent slopes	2,560	0.8
DeD	Dellrose gravelly silt loam, 12 to 20 percent slopes	3,960	1.3
DeE	Dellrose gravelly silt loam, 20 to 45 percent slopes	13,800	4.6
Ea	Eagleville silt clay loam, frequently flooded	4,640	1.5
Eg	Egam silt loam, frequently flooded	830	0.3
GdC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst	13,400	4.4
Go	Godwin silt loam, frequently flooded	9,450	3.1
HaA	Harpeth silt loam, 0 to 2 percent slopes	560	0.2
HaB	Harpeth silt loam, 2 to 5 percent slopes	8,200	2.7
HaC2	Harpeth silt loam, 5 to 12 percent slopes, eroded	2,390	0.8
HhC	Hawthorne gravelly silt loam, 5 to 15 percent slopes	4,380	1.4
HhE	Hawthorne gravelly silt loam, 15 to 45 percent slopes	10,710	3.5
HwC	Hillwood gravelly silt loam, 5 to 12 percent slopes	1,040	0.3
LoA	Lomond silt loam, 0 to 2 percent slopes	400	0.1
LoB	Lomond silt loam, 2 to 5 percent slopes	2,320	0.8
Ly	Lynnville silt loam, frequently flooded	4,850	1.6
Me	Melvin silt loam, frequently flooded	430	0.1
MmB2	Mimosa silt loam, 2 to 5 percent slopes, eroded	5,110	1.7
MmC2	Mimosa silt loam, 5 to 12 percent slopes, eroded	8,740	2.9
MmD2	Mimosa silt loam, 12 to 20 percent slopes, eroded	1,940	0.6
MmE	Mimosa silt loam, 20 to 35 percent slopes	1,060	0.3
MnC2	Mimosa-Ashwood complex, 5 to 15 percent slopes, eroded	18,590	6.2
MnE	Mimosa-Ashwood complex, 15 to 45 percent slopes	7,410	2.4
MoC	Mimosa-Urban land complex, 2 to 15 percent slopes	540	0.2
MtB	Mountview silt loam, 2 to 5 percent slopes	1,280	0.4
MtC2	Mountview silt loam, 5 to 12 percent slopes, eroded	520	0.2
NeA	Nesbitt silt loam, 0 to 2 percent slopes	1,120	0.4
NeB	Nesbitt silt loam, 2 to 5 percent slopes	5,280	1.7
NeC2	Nesbitt silt loam, 5 to 10 percent slopes, eroded	350	0.1
NoC	Noah gravelly silt loam, 5 to 15 percent slopes	3,040	1.0
NoE	Noah gravelly silt loam, 15 to 45 percent slopes	420	0.1
Pd	Pits-Dumps complex	90	*
TaB2	Talbott silt loam, 2 to 5 percent slopes, eroded	29,290	9.8
TaC2	Talbott silt loam, 5 to 12 percent slopes, eroded	6,740	2.2
TrC	Talbott-Rock outcrop complex, 2 to 15 percent slopes	26,130	8.6
Tu	Tupelo silt loam, occasionally flooded	2,820	0.9
Ur	Urban land	420	0.1
W	Water	100	0.1
	Total	304,100	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
Ag Agee	4w	---	30.00	---	---
Ar Arrington	3w	100.00	35.00	---	50.00
AsC*: Ashwood	6s	---	---	---	---
Rock outcrop.					
Mimosa	4e	45.00	---	1,300.00	45.00
AsE*: Ashwood	7s	---	---	---	---
Rock outcrop.					
Mimosa	7e	---	---	---	---
BaD*: Barfield	7s	---	---	---	---
Rock outcrop.					
Bb Bluestocking	3w	60.00	30.00	---	35.00
BdB2 Bradyville	2e	80.00	30.00	1,850.00	48.00
BdC2 Bradyville	3e	70.00	25.00	1,800.00	44.00
BnC*: Bradyville	---	---	---	---	---
Urban land.					
BrB2 Braxton	2e	80.00	30.00	1,950.00	45.00
BrC2 Braxton	3e	70.00	25.00	1,750.00	40.00
BxD3 Braxton	6e	---	---	---	---
CaA Capshaw	2w	75.00	32.00	---	45.00
CaB Capshaw	2e	75.00	30.00	2,000.00	45.00
CoB Colbert	3e	50.00	25.00	---	40.00

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
CoC2---- Colbert	6e	---	---	---	---
DeC---- Dellrose	3e	85.00	30.00	2,200.00	45.00
DeD---- Dellrose	4e	75.00	20.00	2,000.00	30.00
DeE---- Dellrose	7e	---	---	---	---
Ea---- Eagleville	3w	65.00	30.00	---	35.00
Eg---- Egam	3w	110.00	35.00	---	50.00
GdC*: Gladeville----	7s	---	---	---	---
Rock outcrop.					
Go---- Godwin	3w	---	35.00	---	---
HaA---- Harpeth	1	130.00	40.00	2,400.00	50.00
HaB---- Harpeth	2e	120.00	35.00	2,300.00	45.00
HaC2---- Harpeth	3e	---	25.00	2,100.00	35.00
HhC---- Hawthorne	4s	---	---	---	---
HhE---- Hawthorne	7s	---	---	---	---
HwC---- Hillwood	4s	---	---	---	---
LoA---- Lomond	1	100.00	50.00	2,400.00	48.00
LoB---- Lomond	2e	95.00	35.00	2,300.00	46.00
Ly---- Lynnville	3w	---	40.00	---	45.00
Me---- Melvin	4w	---	---	---	---
MmB2---- Mimosa	3e	---	---	1,400.00	45.00
MmC2---- Mimosa	4e	---	---	1,250.00	40.00

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
MmD2 Mimosa	6e	---	---	---	---
MmE Mimosa	7e	---	---	---	---
MnC2: Mimosa	6s	---	---	---	---
Ashwood	6s	---	---	---	---
MnE: Mimosa	7s	---	---	---	---
Ashwood	7s	---	---	---	---
MoC*: Mimosa	---	---	---	---	---
Urban land.					
MtB Mountview	2e	90.00	40.00	2,400.00	55.00
MtC2 Mountview	3e	80.00	30.00	2,200.00	45.00
NeA Nesbitt	2w	100.00	40.00	2,100.00	45.00
NeB Nesbitt	2e	95.00	40.00	2,000.00	45.00
NeC2 Nesbitt	3e	70.00	28.00	---	40.00
NoC Noah	3e	65.00	25.00	---	35.00
NoE Noah	7e	---	---	---	---
Pd. Dumps					
Pits					
TaB2 Talbott	3e	55.00	25.00	1,600.00	40.00
TaC2 Talbott	4e	40.00	20.00	1,500.00	35.00
TrC*: Talbott	7s	---	---	---	---
Rock outcrop.					
Tu Tupelo	3w	60.00	35.00	---	---

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat
		Bu	Bu	Lbs	Bu
Ur. Urban land					

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 6.--Land Capability and Yields per Acre of Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Alfalfa hay	Tall fescue
		Tons	AUM*
Ag Agee	4w	---	5.00
Ar Arrington	3w	---	7.50
AsC**: Ashwood	6s	---	4.00
Rock outcrop.			
Mimosa	4e	---	---
AsE**: Ashwood	7s	---	3.00
Rock outcrop.			
Mimosa	7e	---	---
BaD**: Barfield	7s	---	2.00
Rock outcrop.			
Bb Bluestocking	3w	---	5.50
BdB2 Bradyville	2e	3.30	6.50
BdC2 Bradyville	3e	3.00	6.00
BnC**: Bradyville	---	---	---
Urban land.			
BrB2 Braxton	2e	3.50	6.50
BrC2 Braxton	3e	3.00	6.00
BxD3 Braxton	6e	---	4.00
CaA Capshaw	2w	---	7.00
CaB Capshaw	2e	---	7.00

See footnotes at end of table.

Table 6.--Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Tall fescue
		Tons	AUM*
CoB Colbert	3e	---	6.00
CoC2 Colbert	6e	---	5.00
DeC Dellrose	3e	---	7.00
DeD Dellrose	4e	---	6.00
DeE Dellrose	7e	---	5.00
Ea Eagleville	3w	---	5.50
Eg Egam	3w	---	7.50
GdC**: Gladeville	7s	---	2.00
Rock outcrop.			
Go Godwin	3w	---	6.00
HaA Harpeth	1	4.00	8.00
HaB Harpeth	2e	3.80	7.50
HaC2 Harpeth	3e	3.00	---
HhC Hawthorne	4s	---	4.00
HhE Hawthorne	7s	---	3.00
HwC Hillwood	4s	---	4.00
LoA Lomond	1	4.00	7.50
LoB Lomond	2e	4.00	7.00
Ly Lynnville	3w	---	6.50
Me Melvin	4w	---	3.50
MmB2 Mimosa	3e	---	4.50

* See footnotes at end of table.

Table 6.--Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Tall fescue
		Tons	AUM*
MmC2 Mimosa	4e	---	4.00
MmD2 Mimosa	6e	---	4.00
MmE Mimosa	7e	---	3.00
MnC2: Mimosa	6s	---	4.00
Ashwood	6s	---	---
MnE: Mimosa	7s	---	---
Ashwood	7s	---	---
MoC**: Mimosa	---	---	---
Urban land.			
MtB Mountview	2e	3.50	7.00
MtC2 Mountview	3e	3.00	6.50
NeA Nesbitt	2w	3.00	7.50
NeB Nesbitt	2e	3.00	7.00
NeC2 Nesbitt	3e	---	6.50
NoC Noah	3e	2.50	6.00
NoE Noah	7e	---	5.00
Pd. Dumps			
Pits			
TaB2 Talbott	3e	---	5.00
TaC2 Talbott	4e	---	4.00
TrC**: Talbott	7s	---	3.00
Rock outcrop.			

* See footnotes at end of table.

Table 6.--Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Tall fescue
		Tons	AUM*
Tu---------- Tupelo	3w	---	6.00
Ur. Urban land			

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

Table 7.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Soil name
BrB2	Braxton silt loam, 2 to 5 percent slopes, eroded
CaA	Capshaw silt loam, 0 to 2 percent slopes
CaB	Capshaw silt loam, 2 to 5 percent slopes
HaA	Harpeth silt loam, 0 to 2 percent slopes
HaB	Harpeth silt loam, 2 to 5 percent slopes
LoA	Lomond silt loam, 0 to 2 percent slopes
LoB	Lomond silt loam, 2 to 5 percent slopes
MtB	Mountview silt loam, 2 to 5 percent slopes
NeA	Nesbitt silt loam, 0 to 2 percent slopes
NeB	Nesbitt silt loam, 2 to 5 percent slopes

Table 8.--Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
Ag Agee	Slight	Moderate	Moderate	Moderate	Severe	Eastern cottonwood Water oak	100 90	128 86	Eastern cottonwood, water oak.
Ar Arrington	Slight	Slight	Slight	Slight	Severe	Black walnut Yellow poplar	--- 100	--- 107	Black walnut, yellow poplar.
AsC*:									
Ashwood	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine	45 80	52 110	Eastern redcedar, loblolly pine.
Rock outcrop.									
Mimosa	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine	45 80	52 110	Eastern redcedar, loblolly pine.
AsE*:									
Ashwood	Moderate	Moderate	Moderate	Slight	Moderate	Eastern redcedar Loblolly pine	40 70	43 93	Eastern redcedar, loblolly pine.
Rock outcrop.									
Mimosa	Moderate	Moderate	Moderate	Slight	Moderate	Eastern redcedar Loblolly pine	40 70	43 93	Eastern redcedar, loblolly pine.
BaD*:									
Barfield	Moderate	Moderate	Moderate	Severe	Moderate	Eastern redcedar	35	37	Eastern redcedar.
Rock outcrop.									
Bb Bluestocking	Slight	Slight	Moderate	Slight	Moderate	Yellow poplar	90	90	Black walnut, yellow poplar.
BdB2 Bradyville	Slight	Slight	Slight	Slight	Moderate	Loblolly pine Yellow poplar	90 90	131 90	Loblolly pine, yellow poplar.
BdC2 Bradyville	Moderate	Slight	Slight	Slight	Moderate	Loblolly pine Yellow poplar	90 90	131 90	Loblolly pine, yellow poplar.

* See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
BnC*:									
Bradyville	Moderate	Slight	Slight	Slight	Moderate	Southern red oak	70	52	Loblolly pine, yellow poplar.
						White oak	70	52	
						Yellow poplar	90	90	
Urban land.									
BrB2	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar	50	64	Loblolly pine.
Braxton						Loblolly pine	80	110	
						Southern red oak	70	52	
BrC2	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar	50	64	Loblolly pine.
Braxton						Loblolly pine	80	110	
						Southern red oak	70	52	
BxD3	Moderate	Moderate	Moderate	Slight	Moderate	Eastern redcedar	45	52	Loblolly pine.
Braxton						Loblolly pine	75	101	
CaA	Slight	Slight	Slight	Slight	---	Loblolly pine	80	110	Loblolly pine, yellow poplar.
Capshaw						Southern red oak	70	52	
						Yellow poplar	90	90	
CaB	Slight	Slight	Slight	Slight	---	Southern red oak	70	52	Loblolly pine, yellow poplar.
Capshaw						Yellow poplar	90	90	
CoB	Slight	Moderate	Slight	Slight	Moderate	Eastern redcedar	45	52	Loblolly pine.
Colbert						Southern red oak	70	52	
CoC2	Slight	Moderate	Slight	Slight	Moderate	Eastern redcedar	45	52	Loblolly pine.
Colbert						Southern red oak	70	52	
DeC	Slight	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Loblolly pine, yellow poplar.
Dellrose						Southern red oak	70	52	
						Yellow poplar	98	104	
DeD	Moderate	Moderate	Moderate	Slight	Moderate	Southern red oak	70	52	Loblolly pine, yellow poplar.
Dellrose						Yellow poplar	90	90	
DeE	Moderate	Moderate	Moderate	Slight	Moderate	Southern red oak	70	52	Loblolly pine, yellow poplar.
Dellrose						Yellow poplar	90	90	

* See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
Ea Eagleville	Slight	Moderate	Moderate	Slight	Severe	Eastern cottonwood Green ash Sweetgum Water oak	100 --- 90 90	128 --- 106 86	Cherrybark oak, yellow poplar.
Eg Egam	Slight	Slight	Severe	Slight	Severe	Southern red oak Water oak Yellow poplar	80 90 100	62 86 107	Black walnut, yellow poplar.
GdC*: Gladeville	Slight	Moderate	Severe	Severe	Slight	Eastern redcedar	35	37	Eastern redcedar.
Rock outcrop.									
Go Godwin	Slight	Moderate	Moderate	Slight	Moderate	Eastern cottonwood Green ash Sweetgum Water oak	100 --- 90 90	128 --- 106 86	Cherrybark oak, eastern cottonwood.
HaA Harpeth	Slight	Slight	Slight	Slight	Moderate	Black walnut Hickory Sweetgum Yellow poplar	--- --- 90 95	--- --- 106 98	Black walnut, yellow poplar.
HaB Harpeth	Slight	Slight	Slight	Slight	Moderate	Black walnut Hickory Sweetgum Yellow poplar	--- --- 90 95	--- --- 106 98	Black walnut, yellow poplar.
HaC2 Harpeth	Slight	Slight	Slight	Slight	Moderate	Black walnut Hickory Sweetgum Yellow poplar	--- --- 90 95	--- --- 106 98	Black walnut, yellow poplar.
HhC Hawthorne	Slight	Slight	Moderate	Slight	Moderate	Mockernut hickory Southern red oak	--- 60	--- 43	Loblolly pine, shortleaf pine.
HhE Hawthorne	Slight	Moderate	Moderate	Slight	Moderate	Mockernut hickory Southern red oak	--- 50	--- 34	Loblolly pine.

* See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
HwC Hillwood	Slight	Slight	Slight	Slight	Moderate	Mockernut hickory Southern red oak	--- 70	--- 52	Loblolly pine.
LoA Lomond	Slight	Slight	Slight	Slight	Severe	Black walnut White oak Yellow poplar	--- 80 100	--- 62 107	Black walnut, yellow poplar.
LoB Lomond	Slight	Slight	Slight	Slight	Severe	Black walnut White oak Yellow poplar	--- 80 100	--- 62 107	Black walnut, yellow poplar.
Ly Lynnville	Slight	Slight	Moderate	Slight	Severe	Black walnut Sweetgum Yellow poplar	--- 90 100	--- 106 107	Black walnut, yellow poplar.
Me Melvin	Slight	Moderate	Moderate	Severe	Severe	Eastern cottonwood Green ash Sweetgum	101 --- 89	130 --- 103	Eastern cottonwood, willow oak.
MmB2 Mimosa	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Southern red oak	45 65	52 47	Loblolly pine.
MmC2 Mimosa	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	45 80 65	52 110 47	Loblolly pine.
MmD2 Mimosa	Moderate	Moderate	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	45 80 65	52 110 47	Loblolly pine.
MmE Mimosa	Moderate	Moderate	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	45 80 65	52 110 47	Loblolly pine.
MnC2: Mimosa	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	45 80 65	52 110 47	Loblolly pine.
Ashwood	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	45 80 65	52 110 47	Loblolly pine.

* See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
MnE:									
Mimosa	Moderate	Moderate	Moderate	Slight	Moderate	Eastern redcedar	40	43	Loblolly pine.
						Loblolly pine	70	93	
						Southern red oak	60	43	
Ashwood	Moderate	Moderate	Moderate	Slight	Moderate	Eastern redcedar	40	43	Loblolly pine.
						Loblolly pine	70	93	
						Southern red oak	60	43	
MoC*:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar	45	52	Eastern redcedar,
						Loblolly pine	80	110	loblolly pine.
						Southern red oak	65	47	
Urban land.									
MtB	Slight	Slight	Slight	Slight	Moderate	Loblolly pine	75	101	Loblolly pine.
Mountview						Southern red oak	70	52	
MtC2	Moderate	Slight	Slight	Slight	Moderate	Loblolly pine	75	101	Loblolly pine.
Mountview						Southern red oak	70	52	
						Yellow poplar	90	92	
NeA	Slight	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Black walnut,
Nesbitt						Southern red oak	70	52	loblolly pine.
NeB	Slight	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Black walnut,
Nesbitt						Southern red oak	70	52	loblolly pine.
NeC2	Moderate	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Black walnut,
Nesbitt						Southern red oak	70	52	loblolly pine.
NoC	Slight	Slight	Slight	Slight	Moderate	Mockernut hickory	---	---	Loblolly pine.
Noah						Southern red oak	60	43	
						White oak	60	43	
NoE	Moderate	Moderate	Slight	Slight	Moderate	Mockernut hickory	---	---	Loblolly pine.
Noah						Southern red oak	60	43	
Pd.									
Dumps									

* See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns					Potential productivity			Suggested trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
								cu ft/ac	
Pd. Pits									
TaB2 Talbott	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	40 70 65	43 93 47	Loblolly pine.
TaC2 Talbott	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar Loblolly pine Southern red oak	40 70 65	43 93 47	Loblolly pine.
TrC*: Talbott	Slight	Slight	Slight	Slight	Moderate	Eastern redcedar	40	43	Eastern redcedar.
Rock outcrop.									
Tu Tupelo	Slight	Moderate	Moderate	Slight	Severe	Sweetgum White oak Yellow poplar	80 70 90	79 52 90	Eastern cottonwood.
Ur. Urban land									

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 9.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ag Agee	Severe: flooding, percs slowly, wetness.	Severe: percs slowly, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: flooding, wetness.
Ar Arrington	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
AsC*: Ashwood	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope, depth to rock.
Rock outcrop.					
Mimosa	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope.
AsE*: Ashwood	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.					
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily, slope.	Severe: slope.
BaD*: Barfield	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					
Bb Bluestocking	Severe: flooding.	Moderate: flooding, percs slowly, wetness.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
BdB2 Bradyville	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly, slope, small stones.	Severe: erodes easily.	Slight.
BdC2 Bradyville	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
BnC*: Bradyville	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Severe: erodes easily.	Slight.
Urban land.					

* See footnote at end of table.

Table 9.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
BrB2---------- Braxton	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly, slope, small stones.	Slight---------	Slight.
BrC2---------- Braxton	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight---------	Moderate: slope.
BxD3---------- Braxton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
CaA---------- Capshaw	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly.	Slight---------	Slight.
CaB---------- Capshaw	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly, slope.	Slight---------	Slight.
CoB---------- Colbert	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Severe: erodes easily.	Slight.
CoC2---------- Colbert	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly, slope.	Severe: erodes easily.	Moderate: slope.
DeC---------- Dellrose	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight---------	Moderate: large stones, slope, small stones.
DeD---------- Dellrose	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
DeE---------- Dellrose	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Ea---------- Eagleville	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: flooding.
Eg---------- Egam	Severe: flooding.	Moderate: flooding, percs slowly.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
GdC*:					
Gladeville----------	Severe: small stones.	Severe: small stones.	Severe: large stones, slope, small stones.	Severe: small stones.	Severe: small stones, depth to rock, droughty.
Rock outcrop.					
Go---------- Godwin	Severe: flooding, wetness.	Moderate: flooding, percs slowly, wetness.	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: flooding.

* See footnote at end of table.

Table 9.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
HaA--- Harpeth	Slight	Slight	Slight	Severe: erodes easily.	Slight.
HaB--- Harpeth	Slight	Slight	Moderate: slope.	Severe: erodes easily.	Slight.
HaC2--- Harpeth	Slight	Slight	Severe: slope.	Severe: erodes easily.	Slight.
HhC--- Hawthorne	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: large stones, slope, small stones.
HhE--- Hawthorne	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
HwC--- Hillwood	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: slope, small stones, droughty.
LoA--- Lomond	Slight	Slight	Slight	Severe: erodes easily.	Slight.
LoB--- Lomond	Slight	Slight	Moderate: slope.	Severe: erodes easily.	Slight.
Ly--- Lynnville	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
Me--- Melvin	Severe: flooding, wetness.	Severe: wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: flooding, wetness.
MmB2--- Mimosa	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly, slope.	Slight	Slight.
MmC2--- Mimosa	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope.
MmD2--- Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
MmE--- Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily, slope.	Severe: slope.
MnC2:					
Mimosa---	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope.
Ashwood---	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope, depth to rock.

* See footnote at end of table.

Table 9.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
MnE:					
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily, slope.	Severe: slope.
Ashwood	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
MoC*:					
Mimosa	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope.
Urban land	---	Variable	Variable	Variable	---
MtB Mountview	Slight	Slight	Moderate: slope.	Severe: erodes easily.	Slight.
MtC2 Mountview	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
NeA Nesbitt	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Slight	Slight.
NeB Nesbitt	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Moderate: percs slowly, slope, wetness.	Slight	Slight.
NeC2 Nesbitt	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Severe: slope.	Slight	Slight.
NoC Noah	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: slope, small stones.
NoE Noah	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Pd*:					
Dumps	Variable	Variable	Variable	Variable	Variable.
Pits	Variable	Variable	Variable	Variable	Variable.
TaB2 Talbott	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly, slope.	Slight	Moderate: depth to rock.
TaC2 Talbott	Moderate: percs slowly, slope.	Moderate: percs slowly, slope.	Severe: slope.	Slight	Moderate: slope, depth to rock.
TrC*:					
Talbott	Moderate: percs slowly, slope	Moderate: percs slowly, slope	Severe: slope.	Slight	Moderate: slope, depth to rock.

* See footnote at end of table.

Table 9.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
TrC*: Rock outcrop	---	Severe: depth to rock.	Severe: slope, depth to rock.	Slight	---
Tu Tupelo	Severe: flooding, wetness.	Moderate: percs slowly, wetness.	Severe: wetness.	Moderate: wetness.	Moderate: flooding, wetness.
Ur* Urban land	---	Variable	Variable	Variable	---

* See description of the map unit for composition and behavior characterisitics of the map unit.

Table 10.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Ag Agee	Fair	Fair	Fair	Good	Fair	---	Good	Good	Fair	Good	Good
Ar Arrington	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
AsC*:											
Ashwood	Fair	Good	Fair	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Rock outcrop.											
Mimosa	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
AsE*:											
Ashwood	Very poor.	Fair	Poor	Good	Good	---	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.											
Mimosa	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
BaD*:											
Barfield	Poor	Poor	Fair	Poor	Poor	---	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.											
Bb Bluestocking	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
BdB2 Bradyville	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
BdC2 Bradyville	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
BnC*:											
Bradyville	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Urban land.											
BrB2 Braxton	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BrC2 Braxton	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BxD3 Braxton	Poor	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CaA Capshaw	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor

* See footnote at end of table.

Table 10.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
CaB---------- Capshaw	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CoB---------- Colbert	Good	Good	Fair	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
CoC2--------- Colbert	Fair	Good	Fair	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
DeC---------- Dellrose	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
DeD---------- Dellrose	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
DeE---------- Dellrose	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Ea---------- Eagleville	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Eg---------- Egam	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
GdC*:											
Gladeville----------	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rock outcrop.											
Go---------- Godwin	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
HaA---------- Harpeth	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HaB---------- Harpeth	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HaC2--------- Harpeth	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HhC---------- Hawthorne	Poor	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.
HhE---------- Hawthorne	Very poor.	Poor	Fair	Fair	Fair	---	Very poor.	Very poor.	Poor	Fair	Very poor.
HwC---------- Hillwood	Poor	Fair	Fair	Poor	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
LoA---------- Lomond	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LoB---------- Lomond	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

* See footnote at end of table.

Table 10.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Ly---------- Lynnville	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Me---------- Melvin	Very poor.	Poor	Poor	Poor	Poor	---	Good	Good	Poor	Poor	Good
MmB2---------- Mimosa	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MmC2---------- Mimosa	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
MmD2---------- Mimosa	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
MmE---------- Mimosa	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
MnC2:											
Mimosa----------	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Ashwood----------	Fair	Good	Fair	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
MnE:											
Mimosa----------	Very poor.	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Ashwood----------	Very poor.	Fair	Poor	Good	Good	---	Very poor.	Very poor.	Poor	Good	Very poor.
MoC*:											
Mimosa----------	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Urban land.											
MtB---------- Mountview	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Poor
MtC2---------- Mountview	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Poor
NeA---------- Nesbitt	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NeB---------- Nesbitt	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NeC2---------- Nesbitt	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NoC---------- Noah	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.

* See footnote at end of table.

Table 10.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
NoE---------- Noah	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
Pd*:											
Dumps----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Pits----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
TaB2---------- Talbott	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
TaC2---------- Talbott	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
TrC*:											
Talbott----------	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Rock outcrop--------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Tu---------- Tupelo	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Ur. Urban land											

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 11.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Ag Agee	Severe: wetness.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, shrink-swell, wetness.	Severe: low strength, shrink-swell, wetness.	Severe: flooding, wetness.
Ar Arrington	Moderate: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
AsC*:						
Ashwood	Severe: depth to rock.	Severe: shrink-swell.	Severe: shrink-swell, depth to rock.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope, depth to rock.
Rock outcrop.						
Mimosa	Moderate: slope, too clayey, depth to rock.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope, depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope.
AsE*:						
Ashwood	Severe: slope, depth to rock.	Severe: shrink-swell, slope.	Severe: shrink-swell, slope, depth to rock.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell, slope.	Severe: slope.
Rock outcrop.						
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
BaD*:						
Barfield	Severe: slope, depth to rock.	Severe: shrink-swell, slope, depth to rock.	Severe: shrink-swell, slope, depth to rock.	Severe: shrink-swell, slope, depth to rock.	Severe: low strength, shrink-swell, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.						

* See footnote at end of table.

Table 11.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Bb Bluestocking	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
BdB2 Bluestocking	Moderate: too clayey, depth to rock.	Moderate: shrink-swell,	Moderate: shrink-swell, depth to rock.	Moderate: shrink-swell.	Severe: low strength.	Slight.
BdC2 Bradyville	Moderate: slope, too clayey, depth to rock.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope, depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope.
BnC*: Bradyville	Moderate: too clayey, depth to rock.	Moderate: shrink-swell.	Moderate: shrink-swell, depth to rock.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
Urban land.						
BrB2 Braxton	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
BrC2 Braxton	Moderate: slope, too clayey.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
BxD3 Braxton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
CaA Capshaw	Moderate: too clayey, wetness, depth to rock.	Moderate: shrink-swell.	Moderate: shrink-swell, wetness, depth to rock.	Moderate: shrink-swell.	Severe: low strength.	Slight.
CaB Capshaw	Moderate: too clayey, wetness, depth to rock.	Moderate: shrink-swell.	Moderate: shrink-swell, wetness, depth to rock.	Moderate: shrink-swell.	Severe: low strength.	Slight.
CoB Colbert	Moderate: too clayey, depth to rock.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.

* See footnote at end of table.

Table 11.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
CoC2 Colbert	Moderate: slope, too clayey, depth to rock.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell,	Moderate: slope.
DeC Dellrose	Moderate: slope, too clayey.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope, small stones.
DeD Dellrose	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
DeE Dellrose	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ea Eagleville	Severe: wetness, depth to rock.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, low strength, shrink-swell.	Severe: flooding.
Eg Egam	Moderate: flooding, too clayey, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, low strength.	Severe: flooding.
GdC*: Gladeville	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: small stones, depth to rock, droughty.
Rock outcrop.						
Go Godwin	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, low strength.	Severe: flooding.
HaA Harpeth	Moderate: too clayey.	Slight	Slight	Slight	Severe: low strength.	Slight.
HaB Harpeth	Moderate: too clayey.	Slight	Slight	Slight	Severe: low strength.	Slight.

* See footnote at end of table.

Table 11.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HaC2---------- Harpeth	Moderate: too clayey.	Slight----------	Slight----------	Moderate: slope.	Severe: low strength.	Slight.
HhC---------- Hawthorne	Moderate: slope, depth to rock.	Moderate: slope.	Moderate: slope, depth to rock.	Severe: slope.	Moderate: slope	Moderate: large stones, slope, small stones.
HhE---------- Hawthorne	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
HwC---------- Hillwood	Moderate: slope, too clayey.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, small stones, droughty.
LoA---------- Lomond	Moderate: too clayey.	Slight----------	Slight----------	Slight----------	Severe: low strength.	Slight.
LoB---------- Lomond	Moderate: too clayey.	Slight----------	Slight----------	Slight----------	Severe: low strength.	Slight.
Ly---------- Lynnville	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, low strength.	Severe: flooding.
Me---------- Melvin	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, low strength, wetness.	Severe: flooding, wetness.
MmB2---------- Mimosa	Moderate: too clayey, depth to rock.	Moderate: shrink-swell.	Moderate: shrink-swell, depth to rock.	Moderate: shrink-swell.	Severe: low strength.	Slight.
MmC2---------- Mimosa	Moderate: slope, too clayey, depth to rock.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope, depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope.
MmD2---------- Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.

* See footnote at end of table.

Table 11.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
MmE Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
MnC2: Mimosa	Moderate: slope, too clayey, depth to rock.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope, depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope.
Ashwood	Severe: depth to rock.	Severe: shrink-swell.	Severe: shrink-swell, depth to rock.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope. depth to rock.
MnE: Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Ashwood	Severe: slope, depth to rock.	Severe: shrink-swell, slope.	Severe: shrink-swell, slope, depth to rock.	Severe: shrink-swell slope.	Severe: low strength, shrink-swell, slope.	Severe: slope.
MoC*: Mimosa	Moderate: slope, too clayey, depth to rock.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope. depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope.
Urban land	Variable	---	---	Variable	Variable	---
MtB Mountview	Moderate: too clayey.	Slight	Moderate: shrink-swell.	Slight	Severe: low strength.	Slight.
MtC2 Mountview	Moderate: slope, too clayey.	Moderate: slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
NeA Nesbitt	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: low strength.	Slight.
NeB Nesbitt	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: low strength.	Slight.

* See footnote at end of table.

Table 11.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
NeC2 Nesbitt	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Severe: low strength.	Slight.
NoC Noah	Moderate: slope, too clayey.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, small stones.
NoE Noah	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Pd*:						
Dumps	Variable	Variable	Variable	Variable	Variable	Variable.
Pits	Variable	Variable	Variable	Variable	Variable	Variable.
TaB2 Talbott	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: low strength.	Moderate: depth to rock.
TaC2 Talbott	Severe: depth to rock.	Moderate: shrink-swell, slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope, depth to rock.
TrC*:						
Talbott	Severe: depth to rock.	Moderate: shrink-swell, slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope, depth to rock.
Rock outcrop	Severe: depth to rock.	---	---	Severe: slope, depth to rock.	Severe: depth to rock.	---
Tu Tupelo	Severe: wetness.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, shrink-swell, wetness.	Severe: flooding, low strength, shrink-swell.	Moderate: flooding, wetness.
Ur*:						
Urban land	Variable	---	---	Variable	Variable	---

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 12.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Ag Agee	Severe: flooding, percs slowly, wetness.	Severe: flooding.	Severe: flooding, too clayey, wetness.	Severe: flooding, wetness.	Poor: hard to pack, too clayey, wetness.
Ar Arrington	Severe: flooding.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Good.
AsC*: Ashwood	Severe: percs slowly, depth to rock.	Severe: slope, depth to rock.	Severe: too clayey, depth to rock.	Severe: depth to rock.	Poor: hard to pack, too clayey, depth to rock.
Rock outcrop.					
Mimosa	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.
AsE*: Ashwood	Severe: percs slowly, slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, too clayey, depth to rock.	Severe: slope, depth to rock.	Poor: hard to pack, too clayey, depth to rock.
Rock outcrop.					
Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey, depth to rock.	Severe: slope.	Poor: hard to pack, slope, too clayey.
BaD*: Barfield	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, too clayey, depth to rock.	Severe: slope, depth to rock.	Poor: hard to pack, too clayey, depth to rock.
Rock outcrop.					
Bb Bluestocking	Severe: flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, depth to rock.	Severe: flooding, seepage.	Poor: small stones, too clayey.
BdB2 Bradyville	Severe: percs slowly.	Moderate: seepage, slope, depth to rock.	Severe: too clayey, depth to rock.	Moderate: depth to rock.	Poor: hard to pack, too clayey.
BdC2 Bradyville	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.

* See footnote at end of table.

Table 12.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
BnC*:					
Bradyville	Severe: percs slowly.	Moderate: seepage, slope, depth to rock.	Severe: too clayey, depth to rock.	Moderate: depth to rock.	Poor: hard to pack, too clayey.
Urban land.					
BrB2 Braxton	Severe: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight	Poor: hard to pack, too clayey.
BrC2 Braxton	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: hard to pack, too clayey.
BxD3 Braxton	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: hard to pack, slope, too clayey.
CaA Capshaw	Severe: percs slowly, wetness.	Moderate: depth to rock.	Severe: too clayey, wetness, depth to rock.	Moderate: wetness, depth to rock.	Poor: hard to pack, too clayey.
CaB Capshaw	Severe: percs slowly, wetness.	Moderate: slope, depth to rock.	Severe: too clayey, wetness, depth to rock.	Moderate: wetness, depth to rock.	Poor: hard to pack, too clayey.
CoB Colbert	Severe: percs slowly, wetness.	Moderate: slope, depth to rock.	Severe: too clayey, depth to rock.	Moderate: depth to rock,	Poor: hard to pack, too clayey.
CoC2 Colbert	Severe: percs slowly, wetness.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.
DeC Dellrose	Moderate: percs slowly, slope.	Severe: seepage, slope.	Moderate: slope, too clayey.	Severe: seepage.	Poor: small stones.
DeD Dellrose	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: slope, small stones.
DeE:					
Dellrose	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: slope, small stones.
Ea Eagleville	Severe: flooding, wetness, depth to rock.	Severe: flooding, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Poor: hard to pack, too clayey, depth to rock.
Eg Egam	Severe: flooding, percs slowly, wetness.	Severe: flooding, wetness.	Severe: flooding, too clayey, wetness.	Severe: flooding, wetness.	Poor: hard to pack, too clayey.

* See footnote at end of table.

Table 12.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
GdC*:					
Gladeville	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Poor: small stones, depth to rock.
Rock outcrop.					
Go	Severe: flooding, percs slowly, wetness.	Severe: flooding, wetness.	Severe: flooding, too clayey, wetness.	Severe: flooding, wetness.	Poor: hard to pack, too clayey, wetness.
HaA	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: thin layer, too clayey.
HaB	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: thin layer, too clayey.
HaC2	Moderate: percs slowly.	Severe: slope.	Moderate: too clayey.	Slight	Fair: thin layer, too clayey.
HhC	Severe: depth to rock.	Severe: seepage, slope, depth to rock.	Severe: seepage, depth to rock.	Severe: seepage, depth to rock.	Poor: small stones, depth to rock.
HhE	Severe: slope, depth to rock.	Severe: seepage, slope, depth to rock.	Severe: seepage, slope, depth to rock.	Severe: seepage, slope, depth to rock.	Poor: slope, small stones, depth to rock.
HwC:					
Hillwood	Moderate: slope.	Severe: seepage, slope.	Severe: too clayey.	Severe: seepage.	Poor: seepage, small stones, too clayey.
LoA	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: thin layer, too clayey.
LoB	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: thin layer, too clayey.
Ly	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness.
Me	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
MmB2	Severe: percs slowly.	Moderate: slope, depth to rock.	Severe: too clayey, depth to rock.	Moderate: depth to rock.	Poor: hard to pack, too clayey.

* See footnote at end of table.

Table 12.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MmC2 Mimosa	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.
MmD2 Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey, depth to rock.	Severe: slope.	Poor: hard to pack, slope, too clayey.
MmE Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey, depth to rock.	Severe: slope.	Poor: hard to pack, slope, too clayey.
MnC2: Mimosa	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.
Ashwood	Severe: percs slowly, depth to rock.	Severe: slope, depth to rock.	Severe: too clayey, depth to rock.	Severe: depth to rock.	Poor: hard to pack, too clayey, depth to rock.
MnE: Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey, depth to rock.	Severe: slope.	Poor: hard to pack, slope, too clayey.
Ashwood	Severe: percs slowly, slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, too clayey, depth to rock.	Severe: slope, depth to rock.	Poor: hard to pack, too clayey, depth to rock.
MoC*: Mimosa	Severe: percs slowly.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: hard to pack, too clayey.
Urban land	Variable	Variable	Variable	Variable	---
MtB Mountview	Moderate: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight	Poor: hard to pack, small stones, too clayey.
MtC2 Mountview	Moderate: percs slowly, slope.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: hard to pack, small stones, too clayey.
NeA Nesbitt	Severe: percs slowly, wetness.	Severe: wetness.	Moderate: too clayey, wetness.	Moderate: wetness.	Fair: too clayey, wetness.
NeB Nesbitt	Severe: percs slowly, wetness.	Severe: wetness.	Moderate: too clayey, wetness.	Moderate: wetness.	Fair: too clayey, wetness.

* See footnote at end of table.

Table 12.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
NeC2 Nesbitt	Severe: percs slowly, wetness.	Severe: slope, wetness.	Moderate: too clayey, wetness.	Moderate: wetness.	Fair: too clayey, wetness.
NoC Noah	Moderate: percs slowly, slope, depth to rock.	Severe: slope.	Severe: depth to rock.	Moderate: slope, depth to rock.	Poor: small stones.
NoE Noah	Severe: slope.	Severe: slope.	Severe: slope, depth to rock.	Severe: slope.	Poor: slope, small stones.
Pd*: Dumps	Variable	Variable	Variable	Variable	Variable.
Pits	Variable	Variable	Variable	Variable	Variable.
TaB2 Talbott	Severe: percs slowly, depth to rock.	Severe: depth to rock.	Severe: too clayey, depth to rock.	Severe: depth to rock.	Poor: hard to pack, too clayey, depth to rock.
TaC2 Talbott	Severe: percs slowly, depth to rock.	Severe: slope, depth to rock.	Severe: too clayey, depth to rock.	Severe: depth to rock.	Poor: hard to pack, too clayey, depth to rock.
TrC*: Talbott	Severe: percs slowly, depth to rock.	Severe: slope, depth to rock.	Severe: too clayey, depth to rock.	Severe: depth to rock.	Poor: hard to pack, too clayey, depth to rock.
Rock outcrop	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.	---
Tu Tupelo	Severe: flooding, percs slowly, wetness.	Slight	Severe: flooding, too clayey, wetness.	Severe: flooding, wetness.	Poor: hard to pack, too clayey, wetness.
Ur* Urban land	Variable	Variable	Variable	Variable	---

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 13.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Ag Agee	Poor: low strength, shrink-swell, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Ar Arrington	Fair: low strength, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Good.
AsC*:				
Ashwood	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Rock outcrop.				
Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
AsE*:				
Ashwood	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
Rock outcrop.				
Mimosa	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
BaD*:				
Barfield	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, too clayey, depth to rock.
Rock outcrop.				
Bb Bluestocking	Fair: wetness, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, too clayey.
BdB2 Bradyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, too clayey.
BdC2 Bradyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, too clayey.

* See footnote at end of table.

Table 13.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
BnC*:				
Bradyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, too clayey.
Urban land.				
BrB2 Braxton	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
BrC2 Braxton	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
BxD3 Braxton	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
CaA Capshaw	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
CaB Capshaw	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
CoB Colbert	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
CoC2 Colbert	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
DeC Dellrose	Fair: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
DeD Dellrose	Fair: slope, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope, small stones.
DeE Dellrose	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope, small stones.
Ea Eagleville	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Eg Egam	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
GdC*:				
Gladeville	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, too clayey, depth to rock.
Rock outcrop.				

* See footnote at end of table.

Table 13.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Go--- Godwin	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
HaA--- Harpeth	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
HaB--- Harpeth	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
HaC2--- Harpeth	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
HhC--- Hawthorne	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
HhE--- Hawthorne	Poor: slope, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, small stones.
HwC--- Hillwood	Good---	Improbable: small stones.	Probable---	Poor: area reclaim, small stones.
LoA--- Lomond	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
LoB--- Lomond	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey.
Ly--- Lynnville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Me--- Melvin	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
MmB2--- Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
MmC2--- Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
MmD2--- Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
MmE--- Mimosa	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
MnC2:				
Mimosa---	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Ashwood---	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.

* See footnote at end of table.

Table 13.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
MnE:				
Mimosa	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
Ashwood	Poor: low strength, shrink-swell, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
MoC*:				
Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Urban land	Variable	Variable	---	Variable.
MtB	Poor:	Improbable:	Improbable:	Poor:
Mountview	low strength.	excess fines.	excess fines.	area reclaim.
MtC2	Poor:	Improbable:	Improbable:	Poor:
Mountview	low strength.	excess fines.	excess fines.	area reclaim.
NeA	Poor:	Improbable:	Improbable:	Fair:
Nesbitt	low strength.	excess fines.	excess fines.	too clayey.
NeB	Poor:	Improbable:	Improbable:	Fair:
Nesbitt	low strength.	excess fines.	excess fines.	too clayey.
NeC2	Poor:	Improbable:	Improbable:	Fair:
Nesbitt	low strength.	excess fines.	excess fines.	too clayey.
NoC	Fair:	Improbable:	Improbable:	Poor:
Noah	thin layer, depth to rock.	excess fines.	excess fines.	area reclaim, small stones.
NoE	Poor:	Improbable:	Improbable:	Poor:
Noah	slope.	excess fines.	excess fines.	area reclaim, slope, small stones.
Pd*:				
Dumps	Variable	Variable	Variable	Variable.
Pits	Variable	Variable	Variable	Variable.
TaB2	Poor:	Improbable:	Improbable:	Poor:
Talbott	low strength, depth to rock.	excess fines.	excess fines.	too clayey.
TaC2	Poor:	Improbable:	Improbable:	Poor:
Talbott	low strength, depth to rock.	excess fines.	excess fines.	too clayey.
TrC*:				
Talbott	Poor: low strength, depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Rock outcrop	Poor: depth to rock.	Improbable: excess fines.	---	Poor: depth to rock.

* See footnote at end of table.

Table 13.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Tu---------- Tupelo	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Ur*---------- Urban land	Variable----------	Variable----------	---	Variable.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 14.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ag Agee	Slight	Severe: hard to pack, wetness.	Severe: no water.	Flooding, percs slowly.	Percs slowly, wetness.	Percs slowly, wetness.	Percs slowly, wetness.
Ar Arrington	Moderate: seepage.	Severe: piping.	Moderate: slow refill, deep to water.	Deep to water-	Erodes easily, flooding.	Erodes easily--	Erodes easily.
AsC*:							
Ashwood	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.
Rock outcrop.							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
AsE*:							
Ashwood	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water- deep to water	Depth to rock, slope.	Depth to rock, slope.	Depth to rock, slope.
Rock outcrop.							
Mimosa	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
BaD:							
Barfield	Severe: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to water-	Slope, droughty.	Depth to rock, slope.	Depth to rock, slope, droughty.
Rock outcrop.							
Bb Bluestocking	Severe: seepage.	Moderate: wetness.	Severe: no water.	Flooding------	Flooding, wetness.	Wetness--------	Favorable.
BdB2 Bradyville	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.

* See footnote at end of table.

Table 14.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
BdC2---------- Bradyville	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily, slope.	Erodes easily, slope.
BnC*:							
Bradyville---------	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.
Urban land.							
BrB2---------- Braxton	Moderate: seepage, slope.	Moderate: hard to pack.	Severe: no water.	Deep to water-	Slope----------	Favorable------	Favorable.
BrC2---------- Braxton	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water-	Slope----------	Slope----------	Slope.
BxD3---------- Braxton	Severe: slope.	Moderate: hard to pack.	Severe: no water.	Deep to water-	Slope----------	Slope----------	Slope.
CaA---------- Capshaw	Moderate: depth to rock.	Severe: hard to pack.	Severe: slow refill.	Deep to water-	Erodes easily, percs slowly.	Erodes easily, percs slowly.	Erodes easily, percs slowly.
CaB---------- Capshaw	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: slow refill.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly.	Erodes easily, percs slowly.
CaB---------- Colbert	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to watre-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly.	Erodes easily, percs slowly.
CoC2---------- Colbert	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, precs slowly, slope.	Erodes easily, percs slowly, slope.
DeC---------- Dellrose	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Slope----------	Slope----------	Slope.
DeD---------- Dellrose	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Slope----------	Slope.	Slope.

* See footnote at end of table.

Table 14.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
DeE---------- Dellrose	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Slope----------	Slope----------	Slope.
Ea---------- Eagleville	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Depth to rock, flooding, percs slowly.	Percs slowly, wetness.	Depth to rock, wetness.	Depth to rock, wetness.
Eg---------- Egam	Slight---------	Moderate: hard to pack, thin layer, wetness.	Severe: slow refill.	Deep to water-	Flooding------	Favorable------	Favorable.
GdC*: Gladeville---------	Severe: depth to rock.	Severe: thin layer.	Severe: no water.	Deep to water-	Depth to rock, slope, droughty.	Depth to rock, large stones, slope.	Large stones, slope, droughty.
Rock outcrop.							
Go---------- Godwin	Slight---------	Severe: wetness.	Severe: slow refill.	Flooding------	Flooding, wetness.	Wetness--------	Wetness.
HaA---------- Harpeth	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water-	Erodes easily-	Erodes easily--	Erodes easily.
HaB---------- Harpeth	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.
HaC2---------- Harpeth	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.
HhC---------- Hawthorne	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Depth to rock, slope, droughty.	Depth to rock, slope.	Depth to rock, slope, droughty.
HhE---------- Hawthorne	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water-	Depth to rock, slope, droughty.	Depth to rock, slope.	Depth to rock, slope, droughty.
HwC---------- Hillwood	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water-	Slope, droughty.	Slope----------	Slope, droughty.

* See footnote at end of table.

Table 14.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
LoA---------- Lomond	Moderate: seepage.	Moderate: piping, thin layer.	Severe: no water.	Deep to water-	Erodes easily-	Erodes easily--	Erodes easily.
LoB---------- Lomond	Moderate: seepage.	Moderate: piping, thin layer.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.
Ly---------- Lynnville	Moderate: seepage.	Severe: piping.	Moderate: slow refill, deep to water.	Flooding------	Erodes easily, flooding, wetness.	Erodes easily, wetness.	Erodes easily.
Me---------- Melvin	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding------	Erodes easily, flooding, wetness.	Erodes easily, wetness.	Erodes easily, wetness.
MmB2---------- Mimosa	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly.	Erodes easily, percs slowly.
MmC2---------- Mimosa	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily- percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
MmD2---------- Mimosa	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
MmE---------- Mimosa	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, precs slowly, slope.	Erodes easily, percs slowly, slope.
MnC2: Mimosa----------	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
Ashwood----------	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope	Depth to rock, slope.	Depth to rock, slope.
MnE: Mimosa----------	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.

* See footnote at end of table.

Table 14.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
MnE:							
Ashwood	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope.	Depth to rock, slope.	Depth to rock, slope.
MoC*:							
Mimosa	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
Urban land	Variable	---	---	---	---	Variable	---
MtB	Moderate: seepage, slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily, slope.	Erodes easily--	Erodes easily.
Mountview							
MtC2	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Erodes easily- slope.	Erodes easily, slope.	Erodes easily, slope.
Mountview							
NeA	Moderate: seepage.	Moderate: piping, thin layer, wetness.	Severe: no water.	Favorable	Erodes easily, wetness.	Erodes easily, wetness.	Erodes easily.
Nesbitt							
NeB	Moderate: seepage, slope.	Moderate: piping, thin layer, wetness.	Severe: no water.	Slope	Erodes easily, slope, wetness.	Erodes easily, wetness.	Erodes easily.
Nesbitt							
NeC2	Moderate: seepage, slope.	Moderate: piping, thin layer, wetness.	Severe: no water.	Slope	Erodes easily, slope, wetness.	Erodes easily, wetness.	Erodes easily.
Nesbitt							
NoC	Severe: slope.	Moderate: piping, thin layer.	Severe: no water.	Deep to water-	Slope	Slope	Slope.
Noah							
NoE	Severe: slope.	Moderate: piping, thin layer.	Severe: no water.	Deep to water-	Slope	Slope	Slope.
Noah							

* See footnote at end of table.

Table 14.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Pd*:							
Dumps	Variable	Variable	Variable	Variable	Variable	Variable	Variable.
Pits	Variable	Variable	Variable	Variable	Variable	Variable	Variable.
TaB2 Talbott	Moderate: slope, depth to rock.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
TaC2 Talbott	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope.	Erodes easily, slope, depth to rock.	Erodes easily, slope, depth to rock.
TrC*:							
Talbott	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water-	Depth to rock, slope.	Erodes easily, depth to rock. slope.	Erodes easily, depth to rock, slope.
Rock outcrop	Severe: slope, depth to rock.	---	---	---	---	Depth to rock, slope.	---
Tu Tupelo	Slight	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Erodes easily, percs slowly, wetness.	Erodes easily, percs slowly, wetness.	Erodes easily, percs slowly, wetness.
Ur* Urban land	Variable	---	---	---	---	Variable	---

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 15.--Engineering Index Properties

(The symbol > means greater than. Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Ag	0-18	Silty clay loam	CH, CL	A-6, A-7	0	0	95-100	95-100	95-100	85-95	35-55	20-35
Agee	18-60	Silty clay, clay.	CH	A-7	0	0	95-100	95-100	95-100	85-95	50-75	30-50
Ar	0-60	Silt loam, silty clay loam.	CL-ML, CL, ML	A-4, A-6	0	0	100	90-100	85-95	75-95	25-40	4-15
Arrington												
AsC*:												
Ashwood	0-6	Silt loam	CL-ML, CL, ML	A-6, A-4, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-26	Clay, silty clay.	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	26-30	Unweathered bedrock.			---	---	---	---	---	---	---	---
Rock outcrop.												
Mimosa	0-6	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-14	Silty clay loam, silty clay, clay.	CL, CH, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.			---	---	---	---	---	---	---	---
AsE*:												
Ashwood	0-6	Silt loam	CL, CL-ML, ML	A-4, A-7, A-6	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-26	Clay, silty clay.	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	26-30	Unweathered bedrock.			---	---	---	---	---	---	---	---
Rock outcrop.												

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AsE*:												
Mimosa	0-6	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-14	Silty clay loam, silty clay, clay.	CL, MH, CH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
BaD*:												
Barfield	0-5	Silty clay loam	CH, MH, CL	A-6, A-7	0-5	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	5-19	Clay, silty clay loam, flaggy clay.	CH, MH, CL	A-6, A-7	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	19-23	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
Bb	0-12	Silt loam	CL, ML	A-4, A-6	---	0-2	90-100	85-100	75-95	70-95	25-40	8-22
Bluestocking	12-24	Silty clay loam, silty clay, clay.	CH, CL	A-6, A-7	---	0-2	85-100	80-100	75-95	70-95	35-60	15-32
	24-60	Very gravelly silty clay, extremely gravelly clay.	GC	A-2, A-7	---	0-5	25-70	15-55	15-50	15-45	45-60	22-35
BdB2	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
Bradyville	6-20	Silty clay loam	CL	A-6, A-7	0	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	20-50	Silty clay, clay.	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	50-54	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
BdC2	0-6	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
Bradyville	6-20	Silty clay loam	CL	A-6, A-7	0	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	20-50	Silty clay, clay.	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	50-54	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
BnC*:												
Bradyville	0-6	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	6-20	Silty clay loam	CL	A-6, A-7	0	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	20-50	Silty clay, clay.	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	50-54	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Urban land.												
BrB2	0-7	Silt loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
Braxton	7-60	Clay, silty clay.	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
BrC2	0-7	Silt loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
Braxton	7-60	Clay, silty clay.	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
BxD3	0-7	Silty clay loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
Braxton	7-60	Clay, silty clay.	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
CaA	0-7	Silt loam	CL, ML, CL-ML	A-4	0	0	90-100	85-100	80-95	75-85	18-30	3-10
Capshaw	7-13	Silty clay loam, silty clay, silt loam.	CL, ML	A-6, A-7	0	0	90-100	85-100	80-95	75-85	30-45	11-20
	13-60	Clay, silty clay, silty clay loam.	CH, MH, CL	A-7	0	0	90-100	85-100	80-95	75-90	41-68	18-36
CaB	0-7	Silt loam	CL, ML, CL-ML	A-4	0	0	90-100	85-100	80-95	75-85	18-30	3-10
Capshaw	7-13	Silty clay loam, silty clay, silt loam.	CL, ML	A-6, A-7	0	0	90-100	85-100	80-95	75-85	30-45	11-20
	13-60	Clay, silty clay, silty clay loam.	CH, MH, CL	A-7	0	0	90-100	85-100	80-95	75-90	41-68	18-36

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
CoB--- Colbert	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	60-90	15-20	NP-15
	6-35	Silty clay, clay.	CH, MH	A-7	0	0	95-100	90-100	90-100	80-100	50-85	25-50
	35-46	Silty clay loam, silty clay, clay.	CH, CL	A-7	0	0-3	90-100	85-100	75-95	60-90	40-70	25-50
	46-50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
CoC2--- Colbert	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	60-90	15-20	NP-15
	6-35	Silty clay, clay.	CH, MH	A-7	0	0	95-100	90-100	90-100	80-100	50-85	25-50
	35-46	Silty clay loam, silty clay, clay.	CH, CL	A-7	0	0-3	90-100	85-100	75-95	60-90	40-70	25-50
	46-50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
DeC--- Dellrose	0-7	Gravelly silt loam.	CL, SC, CL-ML, GC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	7-52	Gravelly silty clay loam, gravelly silt loam.	GC, ML, CL, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	52-60	Clay, gravelly clay.	CH, MH	A-7	0	0-10	60-100	55-100	50-90	50-85	50-70	20-35
DeD--- Dellrose	0-7	Gravelly silt loam.	CL-ML, GC, CL, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	7-52	Gravelly silty clay loam, gravelly silt loam.	GC, CL, ML, SC	A-4, A-7, A-6	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	52-60	Clay.	CH, MH	A-7	0	0-10	80-100	80-100	75-90	70-85	50-70	20-35
DeE--- Dellrose	0-7	Gravelly silt loam.	CL-ML, CL, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	7-52	Gravelly silty clay loam, gravelly silt loam.	CL, GC, SC, ML	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	52-60	Clay.	CH, MH	A-7	0	0-10	80-100	80-100	75-90	70-85	50-70	20-35

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Ea	0-11	Silty clay loam	CH, CL	A-6, A-7	0	0	80-100	75-100	70-100	65-95	35-55	15-28
Eagleville	11-32	Clay, silty clay, silty clay loam.	CH	A-7	0	0	80-100	75-100	70-100	65-95	52-70	28-43
	32-36	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Eg	0-10	Silt loam	CL, CL-ML, ML	A-6, A-4, A-7	0	0	95-100	95-100	85-100	75-95	21-45	4-20
Egam	10-42	Silty clay, silty clay loam, clay.	CH, CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	38-60	15-30
	42-60	Silty clay loam, clay, clay loam.	CH, CL, ML	A-4, A-6, A-7	0	0	95-100	95-100	90-100	70-95	25-60	8-30
GdC*:												
Gladeville	0-10	Flaggy silty clay loam.	CH, CL, GC	A-6, A-2, A-7	0-5	5-20	40-65	30-55	25-55	20-55	38-55	20-34
	10-14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
Go	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	90-100	80-95	20-40	5-16
Godwin	7-30	Silty clay loam, silty clay.	CH, CL, ML, MH	A-7	0	0	100	98-100	95-100	85-95	43-55	18-27
	30-60	Silty clay, clay, silty clay loam.	CH, CL	A-7	0	0	100	98-100	90-100	85-95	43-70	20-40
HaA	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
Harpeth	8-40	Silt loam, silty clay loam.	CL, ML	A-4, A-6	0	0	100	95-100	90-95	85-95	30-40	8-17
	40-60	Silty clay loam, clay, clay loam.	CL, CH, MH, ML	A-7	0	0	90-100	85-100	75-95	60-85	40-55	15-25

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
HaB----------	0-8	Silt loam------	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
Harpeth	8-40	Silt loam, silty clay loam.	CL, ML	A-4, A-6	0	0	100	95-100	90-95	85-95	30-40	8-17
	40-60	Silty clay loam, clay, clay loam.	CL, CH, MH, ML	A-7	0	0	90-100	85-100	75-95	60-85	40-55	15-25
HaC2----------	0-6	Silt loam------	CL, ML, CL-ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
Harpeth	6-40	Silt loam, silty clay loam.	CL, ML	A-4, A-6	0	0	100	95-100	90-95	85-95	30-40	8-17
	40-60	Silty clay loam, clay, clay loam.	CH, CL, ML, MH	A-7	0	0	90-100	85-100	75-95	60-85	40-55	15-25
HhC----------	0-11	Gravelly silt loam.	GC-GM, CL-ML, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
Hawthorne	11-25	Very channery silty clay loam, very channery silt loam.	CL-ML, ML, GC-GM, GM	A-4, A-2, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	25-60	Weathered bedrock.	---	---	---	---	---	---	---	---	---	---
HhE----------	0-11	Gravelly silt loam.	CL-ML, ML, GC-GM, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
Hawthorne	11-25	Very channery silty clay loam, very channery silt loam.	GC-GM, CL-ML, GM, ML	A-4, A-2, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	25-60	Weathered bedrock.	---	---	---	---	---	---	---	---	---	---

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
HwC----------	0-7	Gravelly silt loam.	CL, GC-GM, CL-ML, GC	A-4, A-6	---	0-5	55-75	50-75	45-65	36-60	20-40	4-15
Hillwood	7-60	Very gravelly silty clay loam, extremely gravelly clay, very gravelly clay loam.	GM, GP-GC, GC, GW-GM	A-2	---	0-5	20-50	15-50	10-45	5-34	40-60	16-28
LoA----------	0-8	Silt loam------	CL-ML, CL, ML	A-4, A-6	0	0	100	95-100	80-95	70-90	20-35	4-13
Lomond	8-17	Silty clay loam, silt loam.	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	75-95	20-35	5-16
	17-46	Silty clay loam, silt loam.	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-45	11-23
	46-60	Silty clay loam, clay, silty clay.	CL	A-6, A-7	0	0	100	90-100	85-95	80-95	35-49	15-26
LoB----------	0-8	Silt loam------	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	80-95	70-90	20-35	4-13
Lomond	8-17	Silty clay loam, silt loam.	CL, CL-ML	A-4, A-6	0	0	100	95-100	85-100	75-95	20-35	5-16
	17-46	Silty clay loam, silt loam.	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-45	11-23
	46-60	Silty clay loam, clay, silty clay.	CL	A-6, A-7	0	0	100	90-100	85-95	80-95	35-49	15-26
Ly----------	0-18	Silt loam------	CL-ML, CL, ML	A-4	0	0	100	95-100	75-95	55-85	15-35	NP-12
Lynnville	18-60	Silt loam, loam, silty clay loam.	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	95-100	85-95	75-90	25-43	6-18

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Me	0-6	Silt loam	CL-ML, CL, ML	A-4	0	0	95-100	90-100	80-100	80-95	25-35	4-10
Melvin	6-27	Silt loam, silty clay loam.	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-100	80-98	25-40	5-20
	27-60	Silt loam, silty clay loam, loam.	CL, CL-ML	A-4, A-6	0	0	85-100	80-100	70-100	60-98	25-40	5-20
MmB2	0-6	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
Mimosa	6-14	Silty clay loam, silty clay, clay.	CL, CH, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
MmC2	0-6	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
Mimosa	6-14	Silty clay loam, silty clay, clay.	CL, MH, CH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
MmD2	0-6	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
Mimosa	6-11	Silty clay loam, silty clay, clay.	CH, CL, ML, MH	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	11-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-56	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
MmE	0-6	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
Mimosa	6-14	Silty clay loam, silty clay, clay.	CH, ML, CL, MH	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MnC2:												
Mimosa	0-5	Silt loam	CL, ML	A-6, A-4, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-10	Silty clay loam, silty clay, clay.	CL, CH, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	10-50	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	50-54	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Ashwood	0-5	Silt loam	CL-ML, CL, ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	5-28	Clay, silty clay.	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	28-32	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
MnE:												
Mimosa	0-6	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-12	Silty clay loam, silty clay, clay.	CH, CL, ML, MH	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	12-51	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	51-55	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Ashwood	0-6	Silt loam	CL, ML, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-31	Clay, silty clay.	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	31-35	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
MoC*:												
Mimosa	0-6	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-14	Silty clay loam, silty clay, clay.	CH, CL, ML, MH	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	14-54	Clay, silty clay.	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	54-58	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Urban land.												

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MtB	0-7	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
Mountview	7-32	Silt loam, silty clay loam.	CL	A-6, A-7	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	32-60	Clay, cherty clay, cherty silty clay loam.	CL, MH, CH, ML	A-6, A-7	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
MtC2	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
Mountview	6-30	Silt loam, silty clay loam.	CL	A-6, A-7	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	30-60	Clay, cherty clay, cherty silty clay loam.	CL, CH, MH, ML	A-6, A-7	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
NeA	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	80-95	75-90	15-30	3-10
Nesbitt	7-37	Silt loam, silty clay loam.	CL, ML	A-6, A-7	0	0	100	95-100	85-100	85-95	30-45	10-20
	37-60	Clay, silty clay.	CH, CL, MH	A-7	0	0	95-100	80-100	75-95	70-90	45-65	20-34
NeB	0-7	Silt loam	CL-ML, CL, ML	A-4	0	0	100	95-100	80-95	75-90	15-30	3-10
Nesbitt	7-37	Silt loam, silty clay loam.	CL, ML	A-6, A-7	0	0	100	95-100	85-100	85-95	30-45	10-20
	37-60	Clay, silty clay.	CH, MH, CL	A-7	0	0	95-100	80-100	75-95	70-90	45-65	20-34
NeC2	0-6	Silt loam	CL, ML, CL-ML	A-4	0	0	100	95-100	80-95	75-90	15-30	3-10
Nesbitt	6-37	Silt loam, silty clay loam.	CL, ML	A-6, A-7	0	0	100	95-100	85-100	85-95	30-45	10-20
	37-60	Clay, silty clay.	CH, MH, CL	A-7	0	0	95-100	80-100	75-95	70-90	45-65	20-34

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
NoC--- Noah	0-8	Gravelly silt loam.	CL-ML, CL, GC, GC-GM	A-4	---	0-5	60-80	55-75	45-70	40-65	18-30	4-10
	8-15	Gravelly silt loam, gravelly silty clay loam.	CL, GC-GM, CL-ML, GC	A-4, A-6	---	0-5	65-80	60-75	55-70	45-65	24-36	6-14
	15-42	Gravelly silt loam, gravelly silty clay loam.	CL, GC, GC-GM	A-6, A-4, A-7	---	0-5	55-75	50-75	45-70	40-65	28-45	8-20
	42-54	Gravelly silty clay loam, gravelly silty clay, gravelly clay.	CL, GC, GC-GM	A-6, A-7	---	0-5	55-80	50-75	45-70	40-65	32-52	12-26
	54-60	Weathered bedrock.	---	---	---	---	---	---	---	---	---	---
NoE--- Noah	0-8	Gravelly silt loam.	CL, GC-GM, CL-ML, GC	A-4	---	0-5	60-80	55-75	45-70	40-65	18-30	4-10
	8-15	Gravelly silt loam, gravelly silty clay loam.	CL-ML, GC, CL, GC-GM	A-4, A-6	---	0-5	65-80	60-75	55-70	45-65	24-36	6-14
	15-42	Gravelly silt loam, gravelly silty clay loam.	CL, GC, GC-GM	A-6, A-4, A-7	---	0-5	55-75	50-75	45-70	40-65	28-45	8-20
	42-54	Gravelly silty clay loam, gravelly silty clay, gravelly clay.	GC, CL, GC-GM	A-6, A-7	---	0-5	55-80	50-75	45-70	40-65	32-52	12-26
	54-60	Weathered bedrock.	---	---	---	---	---	---	---	---	---	---
Pd:												
Dumps---	0-60	Variable---	---	---	---	---	---	---	---	---	---	---
Pits---	0-60	Variable---	---	---	---	---	---	---	---	---	---	---

* See footnote at end of table.

Table 15.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
TaB2	0-4	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
Talbott	4-34	Clay, silty clay.	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	34-38	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
TaC2	0-4	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
Talbott	4-34	Clay, silty clay.	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	34-38	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
TrC*:												
Talbott	0-5	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	5-30	Clay, silty clay.	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30-34	Unweathered bedrock.	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
Tu	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	80-100	70-90	20-35	3-10
Tupelo	9-60	Clay, silty clay.	CH, CL	A-7	0	0	95-100	95-100	90-100	85-100	41-70	20-42
Ur.												
Urban land												

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 16.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply to the surface later. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Ag	0-18	27-40	1.30-1.50	0.20-0.60	0.17-0.21	6.0-8.9	2.0-4.0	.32	.32	5
Agee	18-60	40-60	1.25-1.45	0.00-0.06	0.12-0.16	6.0-8.9	0.5-1.0	.32	.32	
Ar	0-60	18-35	1.30-1.45	0.60-2.00	0.19-0.22	0.0-2.9	2.0-4.0	.37	.37	5
Arrington										
AsC*:										
Ashwood	0-6	22-27	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-26	40-60	1.30-1.45	0.20-0.60	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	26-30	---	---	---	---	---	---	---	---	
Rock outcrop.										
Mimosa	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	
AsE*:										
Ashwood	0-6	22-27	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-26	40-60	1.30-1.45	0.20-0.60	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	26-30	---	---	---	---	---	---	---	---	
Rock outcrop.										
Mimosa	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	
BaD*:										
Barfield	0-5	35-40	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	5-19	35-55	1.30-1.50	0.20-0.60	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	19-23	---	---	---	---	---	---	---	---	
Rock outcrop.										
Bb	0-12	15-27	1.30-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.32	.37	3
Bluestocking	12-24	35-50	1.30-1.50	0.20-0.60	0.16-0.20	3.0-5.9	0.5-2.0	.28	.28	
	24-60	35-50	1.30-1.50	2.00-6.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.24	
BdB2	0-6	18-27	1.40-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
Bradyville	6-20	32-40	1.40-1.55	0.60-2.00	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32	
	20-50	40-60	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	50-54	---	---	---	---	---	---	---	---	
BdC2	0-6	18-27	1.40-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
Bradyville	6-20	32-40	1.40-1.55	0.60-2.00	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32	
	20-50	40-60	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	50-54	---	---	---	---	---	---	---	---	

See footnote at end of table.

Table 16.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
BnC*:										
Bradyville	0-6	18-27	1.40-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
	6-20	32-40	1.40-1.55	0.60-2.00	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32	
	20-50	40-60	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	50-54	---	---	---	---	---	---	---	---	
Urban land.										
BrD2	0-7	20-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
Braxton	7-60	40-60	1.25-1.45	0.60-2.00	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
BrC2	0-7	20-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
Braxton	7-60	40-60	1.25-1.45	0.60-2.00	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
BxD3	0-7	20-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
Braxton	7-60	40-60	1.25-1.45	0.60-2.00	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
CaA	0-7	15-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	3
Capshaw	7-13	25-45	1.35-1.55	0.60-2.00	0.16-0.20	0.0-2.9	---	.37	.37	
	13-60	35-55	1.40-1.55	0.06-0.20	0.12-0.18	3.0-5.9	---	.24	.24	
CaB	0-7	15-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	3
Capshaw	7-13	25-45	1.35-1.55	0.60-2.00	0.16-0.20	0.0-2.9	---	.37	.37	
	13-60	35-55	1.40-1.55	0.06-0.20	0.12-0.18	3.0-5.9	---	.24	.24	
CoB	0-6	5-27	1.30-1.55	0.60-2.00	0.15-0.22	0.0-2.9	0.5-2.0	.37	.37	3
Colbert	6-35	50-70	1.00-1.30	0.00-0.06	0.12-0.16	6.0-8.9	0.0-0.5	.32	.32	
	35-46	40-65	1.10-1.45	0.00-0.06	0.10-0.15	6.0-8.9	0.0-0.5	.32	.32	
	46-50	---	---	---	---	---	---	---	---	
CoC2	0-6	5-27	1.30-1.55	0.60-2.00	0.15-0.22	0.0-2.9	0.5-2.0	.37	.37	3
Colbert	6-35	50-70	1.00-1.30	0.00-0.06	0.12-0.16	6.0-8.9	0.0-0.5	.32	.32	
	35-46	40-65	1.10-1.45	0.00-0.06	0.10-0.15	6.0-8.9	0.0-0.5	.32	.32	
	46-50	---	---	---	---	---	---	---	---	
DeC	0-7	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
Dellrose	7-52	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	52-60	40-55	1.30-1.50	0.60-2.00	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
DeD	0-7	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
Dellrose	7-52	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	52-60	40-55	1.30-1.50	0.60-2.00	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
DeE	0-7	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
Dellrose	7-52	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	52-60	40-55	1.30-1.50	0.60-2.00	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
Ea	0-11	27-40	1.25-1.40	0.06-0.20	0.12-0.18	6.0-8.9	2.0-5.0	.32	.32	2
Eagleville	11-32	35-60	1.30-1.50	0.06-0.20	0.10-0.16	6.0-8.9	0.5-1.0	.32	.32	
	32-36	---	---	0.00-0.06	---	---	0.5-1.0	---	---	
Eg	0-10	20-27	1.30-1.45	0.20-0.60	0.18-0.22	3.0-5.9	2.0-4.0	.32	.32	5
Egam	10-42	35-50	1.30-1.45	0.20-0.60	0.14-0.20	3.0-5.9	0.0-0.5	.32	.32	
	42-60	30-45	1.30-1.45	0.20-0.60	0.12-0.18	3.0-5.9	0.0-0.5	.37	.37	

* See footnote at end of table.

Table 16.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
GdC*:										
Gladeville	0-10	35-45	1.30-1.50	0.60-2.00	0.05-0.11	3.0-5.9	2.0-4.0	.17	.28	1
	10-14	---	---	---	---	---	---	---	---	
Rock outcrop.										
Go	0-7	20-27	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	2.0-5.0	.32	.32	5
Godwin	7-30	35-45	1.25-1.45	0.20-0.60	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32	
	30-60	35-55	1.30-1.50	0.20-0.60	0.12-0.18	3.0-5.9	0.5-1.0	.32	.32	
HaA	0-8	14-25	1.30-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Harpeth	8-40	22-34	1.40-1.60	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43	
	40-60	32-50	1.40-1.55	0.60-2.00	0.12-0.17	0.0-2.9	0.0-0.5	.37	.37	
HaB	0-8	14-25	1.30-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Harpeth	8-40	22-34	1.40-1.60	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43	
	40-60	32-50	1.40-1.55	0.60-2.00	0.12-0.17	0.0-2.9	0.0-0.5	.37	.37	
HaC2	0-6	14-25	1.30-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Harpeth	6-40	22-34	1.40-1.60	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43	
	40-60	32-50	1.40-1.55	0.60-2.00	0.12-0.17	0.0-2.9	0.0-0.5	.37	.37	
HhC	0-11	12-25	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
Hawthorne	11-25	15-32	1.40-1.50	2.00-6.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	25-60	---	---	---	---	---	---	---	---	
HhE	0-11	12-25	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
Hawthorne	11-25	15-32	1.40-1.50	2.00-6.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	25-60	---	---	---	---	---	---	---	---	
HwC	0-7	20-27	1.30-1.45	2.00-6.00	0.09-0.15	0.0-2.9	1.0-3.0	.24	.32	5
Hillwood	7-60	35-60	1.30-1.45	2.00-6.00	0.04-0.08	0.0-2.9	---	.20	.32	
LoA	0-8	18-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Lomond	8-17	23-35	1.40-1.55	0.60-2.00	0.17-0.22	0.0-2.9	---	.37	.37	
	17-46	25-38	1.40-1.55	0.60-2.00	0.17-0.21	0.0-2.9	---	.32	.32	
	46-60	32-45	1.35-1.50	0.60-2.00	0.12-0.17	0.0-2.9	---	.32	.32	
LoB	0-8	18-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Lomond	8-17	23-35	1.40-1.55	0.60-2.00	0.17-0.22	0.0-2.9	---	.37	.37	
	17-46	25-38	1.40-1.55	0.60-2.00	0.17-0.21	0.0-2.9	---	.32	.32	
	46-60	32-45	1.35-1.50	0.60-2.00	0.12-0.17	0.0-2.9	---	.32	.32	
Ly	0-18	15-27	1.35-1.50	0.60-2.00	0.13-0.20	0.0-2.9	2.0-4.0	.37	.37	5
Lynnville	18-60	18-35	1.35-1.50	0.60-2.00	0.15-0.20	0.0-2.9	0.5-2.0	.37	.37	
Me	0-6	12-17	1.20-1.60	0.60-2.00	0.18-0.23	0.0-2.9	0.5-3.0	.43	.43	5
Melvin	6-27	12-35	1.30-1.60	0.60-2.00	0.18-0.23	0.0-2.9	0.5-2.0	.43	.43	
	27-60	7-40	1.40-1.70	0.60-2.00	0.16-0.23	0.0-2.9	0.2-1.0	.43	.43	
MmB2	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
Mimosa	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	
MmC2	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
Mimosa	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	

* See footnote at end of table.

Table 16.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
MmD2	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
Mimosa	6-11	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	11-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-56	---	---	---	---	---	---	---	---	
MmE	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
Mimosa	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	
MnC2:										
Mimosa	0-5	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-10	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	10-50	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	50-54	---	---	---	---	---	---	---	---	
Ashwood	0-5	22-27	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	5-28	40-60	1.30-1.45	0.20-0.60	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	28-32	---	---	0.00-0.06	---	---	---	---	---	
MnE:										
Mimosa	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	6-12	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	12-51	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	51-55	---	---	---	---	---	---	---	---	
Ashwood	0-6	22-27	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-31	40-60	1.30-1.45	0.20-0.60	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	31-35	---	---	---	---	---	---	---	---	
MoC*:										
Mimosa	0-6	24-27	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	6-14	35-55	1.30-1.50	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	14-54	45-60	1.35-1.55	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	54-58	---	---	---	---	---	---	---	---	
Urban land.										
MtB	0-7	15-25	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Mountview	7-32	20-35	1.40-1.60	0.60-2.00	0.17-0.20	0.0-2.9	0.0-0.5	.43	.43	
	32-60	35-55	1.30-1.50	0.60-2.00	0.10-0.15	3.0-5.9	0.0-0.5	.32	.37	
MtC2	0-6	15-25	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Mountview	6-30	20-35	1.40-1.60	0.60-2.00	0.17-0.20	0.0-2.9	0.0-0.5	.43	.43	
	30-60	35-55	1.30-1.50	0.60-2.00	0.10-0.15	3.0-5.9	0.0-0.5	.32	.37	
NeA	0-7	15-27	1.35-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Nesbitt	7-37	20-32	1.40-1.55	0.60-2.00	0.17-0.20	0.0-2.9	---	.37	.37	
	37-60	40-55	1.45-1.60	0.20-0.60	0.10-0.15	3.0-5.9	---	.24	.24	
NeB	0-7	15-27	1.35-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Nesbitt	7-37	20-32	1.40-1.55	0.60-2.00	0.17-0.20	0.0-2.9	---	.37	.37	
	37-60	40-55	1.45-1.60	0.20-0.60	0.10-0.15	3.0-5.9	---	.24	.24	
NeC2	0-6	15-27	1.35-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
Nesbitt	6-37	20-32	1.40-1.55	0.60-2.00	0.17-0.20	0.0-2.9	---	.37	.37	
	37-60	40-55	1.45-1.60	0.20-0.60	0.10-0.15	3.0-5.9	---	.24	.24	

* See footnote at end of table.

Table 16.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
NoC	0-8	10-25	1.30-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.28	.37	4
Noah	8-15	18-32	1.30-1.50	0.60-2.00	0.14-0.18	0.0-2.9	---	.28	.32	
	15-42	20-40	1.30-1.50	0.60-2.00	0.10-0.16	0.0-2.9	---	.28	.32	
	42-54	30-50	1.40-1.60	0.60-2.00	0.05-0.12	0.0-2.9	---	.24	.28	
	54-60	---	---	---	---	---	---	---	---	
NoE	0-8	10-25	1.30-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.28	.37	4
Noah	8-15	18-32	1.30-1.50	0.60-2.00	0.14-0.18	0.0-2.9	---	.28	.32	
	15-42	20-40	1.30-1.50	0.60-2.00	0.10-0.16	0.0-2.9	---	.28	.32	
	42-54	30-50	1.40-1.60	0.60-2.00	0.05-0.12	0.0-2.9	---	.24	.28	
	54-60	---	---	---	---	---	---	---	---	
Pd:										
Dumps.										
Pits.										
TaB2	0-4	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
Talbott	4-34	40-60	1.30-1.50	0.20-0.60	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	34-38	---	---	---	---	---	---	---	---	
TaC2	0-4	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
Talbott	4-34	40-60	1.30-1.50	0.20-0.60	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	34-38	---	---	---	---	---	---	---	---	
TrC*:										
Talbott	0-5	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	5-30	40-60	1.30-1.50	0.20-0.60	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	30-34	---	---	---	---	---	---	---	---	
Rock outcrop.										
Tu	0-9	18-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	5
Tupelo	9-60	40-65	1.40-1.55	0.06-0.20	0.12-0.16	6.0-8.9	---	.28	.28	
Ur.										
Urban land										

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 17.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
Ag	0-18	---	---	5.6-7.8
Agee	18-60	---	---	5.6-7.8
Ar	0-60	---	---	6.1-7.8
Arrington				
AsC*:				
Ashwood	0-6	---	---	5.6-7.8
	6-26	---	---	5.6-7.8
	26-30	---	---	---
Rock outcrop.				
Mimosa	0-6	---	---	4.5-6.0
	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
AsE*:				
Ashwood	0-6	---	---	5.6-7.8
	6-26	---	---	5.6-7.8
	26-30	---	---	---
Rock outcrop.				
Mimosa	0-6	---	---	4.5-6.0
	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
BaD*:				
Barfield	0-5	---	---	6.1-7.8
	5-19	---	---	6.1-7.8
	19-23	---	---	---
Rock outcrop.				
Bb	0-12	---	---	6.1-7.3
Bluestocking	12-24	---	---	6.1-7.3
	24-60	---	---	6.1-7.3
BdB2	0-6	---	---	5.1-6.5
Bradyville	6-20	---	---	5.1-6.0
	20-50	---	---	5.1-6.0
	50-54	---	---	---
BdC2	0-6	---	---	5.1-6.5
Bradyville	6-20	---	---	5.1-6.0
	20-50	---	---	5.1-6.0
	50-54	---	---	---
BnC*:				
Bradyville	0-6	---	---	5.1-6.5
	6-20	---	---	5.1-6.0
	20-50	---	---	5.1-6.0
	50-54	---	---	---
Urban land.				

* See footnote at end of table.

Table 17.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
BrB2	0-7	---	---	5.1-6.0
Braxton	7-60	---	---	5.1-6.0
BrC2	0-7	---	---	5.1-6.0
Braxton	7-60	---	---	5.1-6.0
BxD3	0-7	---	---	5.1-6.0
Braxton	7-60	---	---	5.1-6.0
CaA	0-7	---	---	5.1-6.0
Capshaw	7-13	---	---	5.1-6.0
	13-60	---	---	5.1-6.0
CaB	0-7	---	---	5.1-6.0
Capshaw	7-13	---	---	5.1-6.0
	13-60	---	---	5.1-6.0
CoB	0-6	---	---	4.5-6.5
Colbert	6-35	---	---	4.5-6.5
	35-46	---	---	6.1-7.8
	46-50	---	---	---
CoC2	0-6	---	---	4.5-6.5
Colbert	6-35	---	---	4.5-6.5
	35-46	---	---	6.1-7.8
	46-50	---	---	---
DeC	0-7	---	---	4.5-6.0
Dellrose	7-52	---	---	4.5-6.0
	52-60	---	---	4.5-6.0
DeD	0-7	---	---	4.5-6.0
Dellrose	7-52	---	---	4.5-6.0
	52-60	---	---	4.5-6.0
DeE	0-7	---	---	4.5-6.0
Dellrose	7-52	---	---	4.5-6.0
	52-60	---	---	4.5-6.0
Ea	0-11	---	---	5.6-7.8
Eagleville	11-32	---	---	5.6-7.8
	32-36	---	---	---
Eg	0-10	---	---	5.6-7.3
Egam	10-42	---	---	5.6-7.3
	42-60	---	---	5.6-8.4
GdC*:				
Gladeville	0-10	---	---	6.6-8.4
	10-14	---	---	---
Rock outcrop.				
Go	0-7	---	---	6.1-7.3
Godwin	7-30	---	---	6.1-7.3
	30-60	---	---	6.1-7.3
HaA	0-8	---	---	5.1-6.0
Harpeth	8-40	---	---	5.1-6.5
	40-60	---	---	5.1-6.5

* See footnote at end of table.

Table 17.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
HaB	0-8	---	---	5.1-6.0
Harpeth	8-40	---	---	5.1-6.5
	40-60	---	---	5.1-6.5
HaC2	0-6	---	---	5.1-6.0
Harpeth	6-40	---	---	5.1-6.5
	40-60	---	---	5.1-6.5
HhC	0-11	---	---	3.6-5.5
Hawthorne	11-25	---	---	3.6-5.5
	25-60	---	---	---
HhE	0-11	---	---	3.6-5.5
Hawthorne	11-25	---	---	3.6-5.5
	25-60	---	---	---
HwC	0-7	---	---	5.1-6.5
Hillwood	7-60	---	---	5.1-6.5
LoA	0-8	---	---	5.1-6.5
Lomond	8-17	---	---	5.1-6.5
	17-46	---	---	5.1-6.5
	46-60	---	---	5.1-6.5
LoB	0-8	---	---	5.1-6.5
Lomond	8-17	---	---	5.1-6.5
	17-46	---	---	5.1-6.5
	46-60	---	---	5.1-6.5
Ly	0-18	---	---	5.6-7.8
Lynnville	18-60	---	---	5.6-7.8
Me	0-6	5.0-10	---	5.6-7.8
Melvin	6-27	5.0-15	---	5.6-7.8
	27-60	5.0-15	---	5.6-7.8
MmB2	0-6	---	---	4.5-6.0
Mimosa	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
MmC2	0-6	---	---	4.5-6.0
Mimosa	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
MmD2	0-6	---	---	4.5-6.0
Mimosa	6-11	---	---	4.5-6.0
	11-54	---	---	4.5-6.0
	54-56	---	---	---
MmE	0-6	---	---	4.5-6.0
Mimosa	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
MnC2:				
Mimosa	0-5	---	---	4.5-6.0
	5-10	---	---	4.5-6.0
	10-50	---	---	4.5-6.0
	50-54	---	---	---

* See footnote at end of table.

Table 17.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
MnC2:				
Ashwood	0-5	---	---	5.6-7.8
	5-28	---	---	5.6-7.8
	28-32	---	---	---
MnE:				
Mimosa	0-6	---	---	4.5-6.0
	6-12	---	---	4.5-6.0
	12-51	---	---	4.5-6.0
	51-55	---	---	---
Ashwood	0-6	---	---	5.6-7.8
	6-31	---	---	5.6-7.8
	31-35	---	---	---
MoC*:				
Mimosa	0-6	---	---	4.5-6.0
	6-14	---	---	4.5-6.0
	14-54	---	---	4.5-6.0
	54-58	---	---	---
Urban land.				
MtB	0-7	---	---	4.5-5.5
Montview	7-32	---	---	4.5-5.5
	32-60	---	---	4.5-5.5
MtC2	0-6	---	---	4.5-5.5
Mountview	6-30	---	---	4.5-5.5
	30-60	---	---	4.5-5.5
NeA	0-7	---	---	5.1-6.0
Nesbitt	7-37	---	---	5.1-6.0
	37-60	---	---	5.1-6.0
NeB	0-7	---	---	5.1-6.0
Nesbitt	7-37	---	---	5.1-6.0
	37-60	---	---	5.1-6.0
NeC2	0-6	---	---	5.1-6.0
Nesbitt	6-37	---	---	5.1-6.0
	37-60	---	---	5.1-6.0
NoC	0-8	---	---	3.6-5.0
Noah	8-15	---	---	3.6-5.0
	15-42	---	---	3.6-5.0
	42-54	---	---	3.6-5.0
	54-60	---	---	---
NoE	0-8	---	---	3.6-5.0
Noah	8-15	---	---	3.6-5.0
	15-42	---	---	3.6-5.0
	42-54	---	---	3.6-5.0
	54-60	---	---	---
Pd:				
Dumps.				
Pits.				

* See footnote at end of table.

Table 17.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
TaB2	0-4	---	---	5.1-6.5
Talbott	4-34	---	---	5.1-6.5
	34-38	---	---	---
TaC2	0-4	---	---	5.1-6.5
Talbott	4-34	---	---	5.1-6.5
	34-38	---	---	---
TrC*:				
Talbott	0-5	---	---	5.1-6.5
	5-30	---	---	5.1-6.5
	30-34	---	---	---
Rock outcrop.				
Tu	0-9	---	---	5.1-6.0
Tupelo	9-60	---	---	5.1-7.8
Ur.				
Urban land				

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 18.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer				Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Uncoated steel	Concrete
		In	In			
Ag Agee	---	---	---	---	High	Low.
Ar Arrington	---	---	---	---	Low	Low.
AsC*:						
Ashwood	Bedrock (lithic)	20-40	---	Indurated	High	Low.
Rock outcrop.						
Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
AsE*:						
Ashwood	Bedrock (lithic)	20-40	---	Indurated	High	Low.
Rock outcrop.						
Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
BaD*:						
Barfield	Bedrock (lithic)	10-20	---	Indurated	High	Low.
Rock outcrop.						
Bb Bluestocking	Bedrock (lithic)	40-60	---	Indurated	Moderate	Moderate.
BdB2 Bradyville	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
BdC2 Bradyville	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
BnC*:						
Bradyville	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
Urban land.						
BrB2 Braxton	---	---	---	---	High	Moderate.
BrC2 Braxton	---	---	---	---	High	Moderate.
BxD3 Braxton	---	---	---	---	High	Moderate.
CaA Capshaw	Bedrock (lithic)	40-80	---	Indurated	High	Moderate.
CaB Capshaw	Bedrock (lithic)	40-80	---	Indurated	High	Moderate.

* See footnote at end of table.

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Uncoated steel	Concrete
		In	In			
CoB---------- Colbert	Bedrock (lithic)	40-60	---	Indurated	High--------	Moderate.
CoC2---------- Colbert	Bedrock (lithic)	40-60	---	Indurated	High--------	Moderate.
DeC---------- Dellrose	---	---	---	---	High--------	Moderate.
DeD---------- Dellrose	---	---	---	---	High--------	Moderate.
DeE---------- Dellrose	---	---	---	---	High--------	Moderate.
Ea---------- Eagleville	Bedrock (lithic)	20-40	---	Indurated	High--------	Low.
Eg---------- Egam	---	---	---	---	High--------	Low.
GdC*: Gladeville----------	Bedrock (lithic)	3-10	---	Indurated	High--------	Low.
Rock outcrop.						
Go---------- Godwin	---	---	---	---	High--------	Low.
HaA---------- Harpeth	---	---	---	---	Moderate----	Moderate.
HaB---------- Harpeth	---	---	---	---	Moderate----	Moderate.
HaC2---------- Harpeth	---	---	---	---	Moderate----	Moderate.
HhC---------- Hawthorne	Bedrock (paralithic)	20-40	---	Strongly cemented.	Low---------	High.
HhE---------- Hawthorne	Bedrock (paralithic)	20-40	---	Strongly cemented.	Low---------	High.
HwC---------- Hillwood	---	---	---	---	High--------	Moderate.
LoA---------- Lomond	---	---	---	---	High--------	High.
LoB---------- Lomond	---	---	---	---	High--------	High.
Ly---------- Lynnville	---	---	---	---	Moderate----	Low.

* See footnote at end of table.

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Uncoated steel	Concrete
		In	In			
Me Melvin	---	---	---	---	High	Low.
MmB2 Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
MmC2 Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
MmD2 Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
MmE Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
MnC2: Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
MnC2: Ashwood	Bedrock (lithic)	20-40	---	Indurated	High	Low.
MnE: Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
Ashwood	Bedrock (lithic)	20-40	---	Indurated	High	Low.
MoC*: Mimosa	Bedrock (lithic)	40-60	---	Indurated	High	Moderate.
Urban land.						
MtB Mountview	---	---	---	---	Moderate	Moderate.
MtC2 Mountview	---	---	---	---	Moderate	Moderate.
NeA Nesbitt	---	---	---	---	High	Moderate.
NeB Nesbitt	---	---	---	---	High	Moderate.
NeC2 Nesbitt	---	---	---	---	High	Moderate.
NoC Noah	Bedrock (paralithic)	40-60	---	Strongly cemented.	Moderate	High.
NoE Noah	Bedrock (paralithic)	40-60	---	Strongly cemented.	Moderate	High.
Pd: Dumps.						
Pits.						

* See footnote at end of table.

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Uncoated steel	Concrete
		In	In			
TaB2--Talbott	Bedrock (lithic)	20-40	---	Indurated	High	Moderate.
TaC2: Talbott	Bedrock (lithic)	20-40	---	Indurated	High	Moderate.
TrC*: Talbott	Bedrock (lithic)	20-40	---	Indurated	High	Moderate.
Rock outcrop.						
Tu--Tupelo	---	---	---	---	High	Moderate.
Ur. Urban land						

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 19.--Water Features

(Depths of layers are in feet. "Water table," "ponding," "flooding," and such terms as "brief" and "frequent" are explained in the text. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ag Agee	D	January	0.0-1.0	> 5.0	---	---	---	Brief	Frequent.
		February	0.0-1.0	> 5.0	---	---	---	Brief	Frequent.
		March	0.0-1.0	> 5.0	---	---	---	Brief	Frequent.
		April	0.0-1.0	> 5.0	---	---	---	Brief	Frequent.
Ar Arrington	B	January	4.0-6.0	> 5.0	---	---	---	Brief	Frequent.
		February	4.0-6.0	> 5.0	---	---	---	Brief	Frequent.
		March	4.0-6.0	> 5.0	---	---	---	Brief	Frequent.
		April	4.0-6.0	> 5.0	---	---	---	Brief	Frequent.
AsC*:									
Ashwood	C	All months	---	---	---	---	---	---	---
Rock outcrop.									
Mimosa	C	All months	---	---	---	---	---	---	---
AsE*:									
Ashwood	C	All months	---	---	---	---	---	---	---
Rock outcrop.									
Mimosa	C	All months	---	---	---	---	---	---	---
BaD*:									
Barfield	D	All months	---	---	---	---	---	---	---
Rock outcrop.									
Bb Bluestocking	C	January	2.0-3.0	> 5.0	---	---	---	Brief	Frequent.
		February	2.0-3.0	> 5.0	---	---	---	Brief	Frequent.
		March	2.0-3.0	> 5.0	---	---	---	Brief	Frequent.
		April	2.0-3.0	> 5.0	---	---	---	Brief	Frequent.
BdB2 Bradyville	C	All months	---	---	---	---	---	---	---
BdC2 Bradyville		All months	---	---	---	---	---	---	---
BnC*:									
Bradyville		All months	---	---	---	---	---	---	---
Urban land.									
BrB2 Braxton	C	All months	---	---	---	---	---	---	---
BrC2 Braxton		All months	---	---	---	---	---	---	---

* See footnote at end of table.

Table 19.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
BxD3		January	3.5-5.0	> 5.0	---	---	---	---	---
Braxton		February	3.5-5.0	> 5.0	---	---	---	---	---
		March	3.5-5.0	> 5.0	---	---	---	---	---
		December	3.5-5.0	> 5.0	---	---	---	---	---
CaA	C	January	3.5-5.0	> 5.0	---	---	---	---	---
Capshaw		February	3.5-5.0	> 5.0	---	---	---	---	---
		March	3.5-5.0	> 5.0	---	---	---	---	---
		December	3.5-5.0	> 5.0	---	---	---	---	---
CaB		January	3.5-5.0	> 5.0	---	---	---	---	---
Capshaw		February	3.5-5.0	> 5.0	---	---	---	---	---
		March	3.5-5.0	> 5.0	---	---	---	---	---
		December	3.5-5.0	> 5.0	---	---	---	---	---
CoB	D								
Colbert									
CoC2		January	3.5-5.0	> 5.0	---	---	---	---	---
Colbert		February	3.5-5.0	> 5.0	---	---	---	---	---
		March	3.5-5.0	> 5.0	---	---	---	---	---
		December	3.5-5.0	> 5.0	---	---	---	---	---
DeC	B	All months	---	---	---	---	---	---	---
Dellrose									
DeD		All months	---	---	---	---	---	---	---
Dellrose									
DeE		All months	---	---	---	---	---	---	---
Dellrose									
Ea	D	January	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
Eagleville		February	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
		March	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
		December	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
Eg	C	January	3.0-4.0	> 5.0	---	---	---	Very brief	Frequent.
Egam		February	3.0-4.0	> 5.0	---	---	---	Very brief	Frequent.
		March	3.0-4.0	> 5.0	---	---	---	Very brief	Frequent.
		April	3.0-4.0	> 5.0	---	---	---	Very brief	Frequent.
		December	3.0-4.0	> 5.0	---	---	---	Very brief	Frequent.
GdC*:									
Gladeville	D	All months	---	---	---	---	---	---	---
Rock outcrop.									
Go	D	January	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
Godwin		February	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
		March	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
		April	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
		December	1.0-2.0	> 5.0	---	---	---	Brief	Frequent.
HaA	B	All months	---	---	---	---	---	---	---
Harpeth									

* See footnote at end of table.

Table 19.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
HaB---------- Harpeth		All months	---	---	---	---	---	---	---
HaC2---------- Harpeth		All months	---	---	---	---	---	---	---
HhC---------- Hawthorne	B	All months	---	---	---	---	---	---	---
HhE---------- Hawthorne		All months	---	---	---	---	---	---	---
HwC---------- Hillwood	B	All months	---	---	---	---	---	---	---
LoA---------- Lomond	B	All months	---	---	---	---	---	---	---
LoB---------- Lomond		All months	---	---	---	---	---	---	---
Ly---------- Lynnville	C	January	2.0-3.0	> 5.0	---	---	---	Brief--------	Frequent.
		February	2.0-3.0	> 5.0	---	---	---	Brief--------	Frequent.
		March	2.0-3.0	> 5.0	---	---	---	Brief--------	Frequent.
		April	2.0-3.0	> 5.0	---	---	---	Brief--------	Frequent.
		December	2.0-3.0	> 5.0	---	---	---	Brief--------	Frequent.
Me---------- Melvin	D	January	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
		February	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
		March	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
		April	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
		May	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
		December	0.0-1.0	> 5.0	---	---	---	Long---------	Frequent.
MmB2---------- Mimosa	C	All months	---	---	---	---	---	---	---
MmC2---------- Mimosa		All months	---	---	---	---	---	---	---
MmD2---------- Mimosa		All months	---	---	---	---	---	---	---
MmE---------- Mimosa		All months	---	---	---	---	---	---	---
MnC2:									
Mimosa----------		All months	---	---	---	---	---	---	---
Ashwood----------	C	All months	---	---	---	---	---	---	---
MnE:									
Mimosa----------	C	All months	---	---	---	---	---	---	---
Ashwood----------	C	All months	---	---	---	---	---	---	---
MoC*:									
Mimosa----------	C	All months	---	---	---	---	---	---	---
Urban land.									

* See footnote at end of table.

Table 19.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
MtB Mountview	B	All months	---	---	---	---	---	---	---
MtC2 Mountview		All months	---	---	---	---	---	---	---
NeA Nesbitt	B	January	2.0-4.0	> 5.0	---	---	---	---	---
		February	2.0-4.0	> 5.0	---	---	---	---	---
		March	2.0-4.0	> 5.0	---	---	---	---	---
NeB Nesbitt		January	2.0-4.0	> 5.0	---	---	---	---	---
		February	2.0-4.0	> 5.0	---	---	---	---	---
		March	2.0-4.0	> 5.0	---	---	---	---	---
NeC2 Nesbitt		January	2.0-4.0	> 5.0	---	---	---	---	---
		February	2.0-4.0	> 5.0	---	---	---	---	---
		March	2.0-4.0	> 5.0	---	---	---	---	---
NoC Noah	B	All months	---	---	---	---	---	---	---
NoE Noah		All months	---	---	---	---	---	---	---
Pd: Dumps.									
Pits.									
TaB2 Talbott	C	All months	---	---	---	---	---	---	---
TaC2 Talbott		All months	---	---	---	---	---	---	---
TrC*: Talbott	D	All months	---	---	---	---	---	---	---
Rock outcrop.									
Tu Tupelo	D	January	1.0-2.0	> 5.0	---	---	---	Brief	Occasional.
		February	1.0-2.0	> 5.0	---	---	---	Brief	Occasional.
		March	1.0-2.0	> 5.0	---	---	---	Brief	Occasional.
		April	---	---	---	---	---	Brief	Occasional.
		November	1.0-2.0	> 5.0	---	---	---	---	---
		December	1.0-2.0	> 5.0	---	---	---	Brief	Occasional.
Ur. Urban land									

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 20.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Agee	Fine, montmorillonitic, thermic Vertic Epiaquolls
Arrington	Fine-silty, mixed, thermic Cumulic Hapludolls
Ashwood	Fine, mixed, thermic Vertic Argiudolls
Barfield	Clayey, mixed, thermic Lithic Hapludolls
Bluestocking	Clayey-skeletal, mixed, thermic Cumulic Hapludolls
Bradyville	Fine, mixed, thermic Typic Hapludalfs
Braxton	Fine, mixed, thermic Typic Paleudalfs
Capshaw	Fine, mixed, thermic Oxyaquic Hapludalfs
Colbert	Fine, montmorillonitic, thermic Vertic Hapludalfs
Dellrose	Fine-loamy, mixed, thermic Typic Paleudults
Eagleville	Fine, montmorillonitic, thermic Fluvaquentic Vertic Endoaquolls
Egam	Fine, mixed, thermic Cumulic Hapludolls
Gladeville	Clayey-skeletal, mixed, thermic Lithic Rendolls
Godwin	Fine, mixed, thermic Cumulic Endoaquolls
Harpeth	Fine-silty, mixed, thermic Typic Paleudalfs
Hawthorne	Loamy-skeletal, siliceous, thermic Typic Dystrochrepts
Hillwood	Clayey-skeletal, mixed, thermic Typic Paleudalfs
Lomond	Fine-silty, siliceous, thermic Mollic Paleudalfs
Lynnville	Fine-silty, mixed, thermic Fluvaquentic Hapludolls
*Melvin	Fine-silty, mixed, nonacid, mesic Typic Fluvaquents
Mimosa	Fine, mixed, thermic Typic Hapludalfs
Mountview	Fine-silty, siliceous, thermic Typic Paleudults
Nesbitt	Fine-silty, siliceous, thermic Aquic Paleudalfs
Noah	Fine, mixed, thermic Typic Hapludults
Talbott	Fine, mixed, thermic Typic Hapludalfs
Tupelo	Fine, mixed, thermic Aquic Hapludalfs

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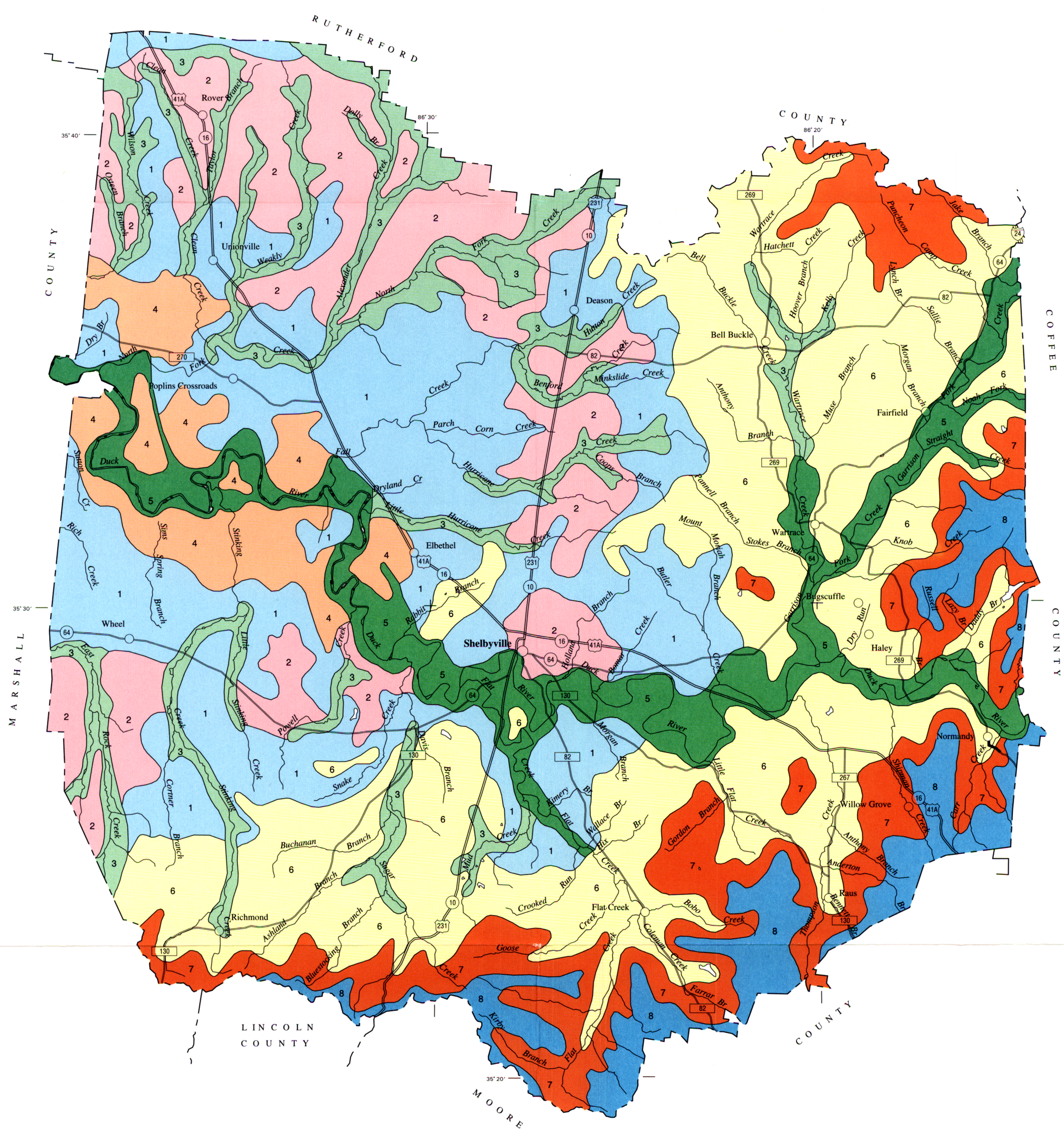


SOIL LEGEND*

1	Talbott-Bradyville-Rock outcrop
2	Talbott-Bradyville-Capshaw
3	Capshaw-Godwin-Agee
4	Gladeville-Talbott-Rock outcrop
5	Harpeth-Braxton-Arrington
6	Mimosa-Ashwood-Rock outcrop
7	Dellrose-Mimosa-Hawthorne
8	Dellrose-Hawthorne-Noah

*The units on this legend are described in the text under the heading "General Soil Map Units."

Compiled 1998

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
TENNESSEE AGRICULTURAL EXPERIMENT STATION
BEDFORD COUNTY BOARD OF COMMISSIONERS
TENNESSEE DEPARTMENT OF AGRICULTURE
TENNESSEE VALLEY AUTHORITY
BEDFORD COUNTY SOIL CONSERVATION DISTRICT

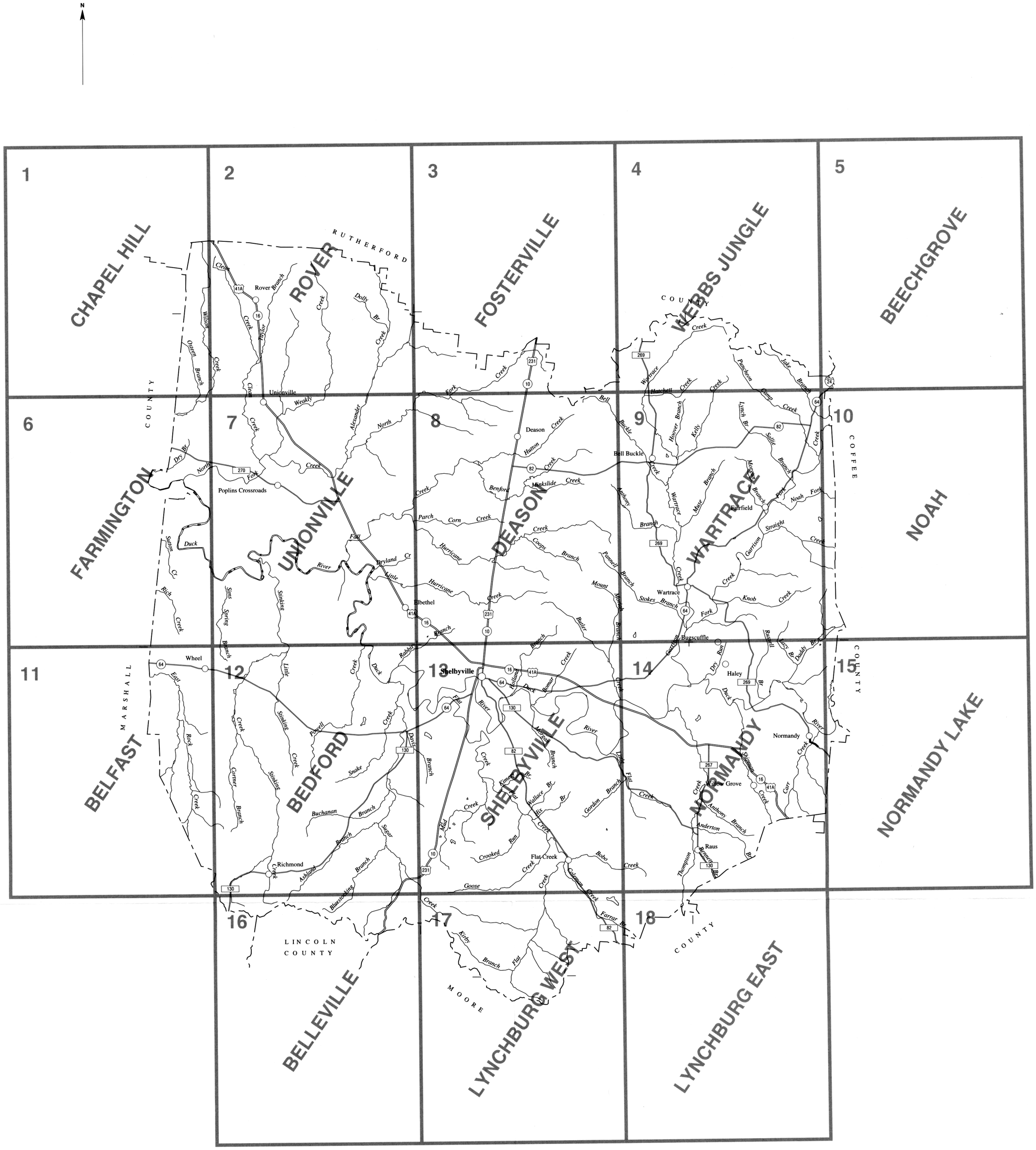
GENERAL SOIL MAP
BEDFORD COUNTY, TENNESSEE

Scale 1:126720

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS
BEDFORD COUNTY, TENNESSEE

Scale 1:126720

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE

TENNESSEE AGRICULTURAL EXPERIMENT STATION
BEDFORD COUNTY BOARD OF COMMISSIONERS, TENNESSEE DEPARTMENT OF AGRICULTURE
TENNESSEE VALLEY AUTHORITY, BEDFORD COUNTY SOIL CONSERVATION DISTRICT

SOIL LEGEND

Map symbols consist of a combination of letters and numbers. The first two letters are listed alphabetically and represent the kind of soil. The first letter is a capital letter and second letter is a small letter. A capital letter following the the small letter indicates the class of slope. Symbols without a slope letter are for nearly level soils or miscellaneous areas. A number 2 following the slope letter indicates that the soil is moderately eroded and a 3 indicates it is severely eroded.

SYMBOL	NAME
Ag	Agee silty clay loam, frequently flooded
Ar	Arrington silt loam, frequently flooded
AsC	Ashwood-Rock outcrop-Mimosa complex, 5 to 15 percent slopes
AsE	Ashwood-Rock outcrop-Mimosa complex, 15 to 45 percent slopes
BaD	Barfield-Rock outcrop complex, 5 to 35 percent slopes
Bb	Bluestocking silt loam, frequently flooded
BdB2	Bradyville silt loam, 2 to 5 percent slopes, eroded
BdC2	Bradyville silt loam, 5 to 12 percent slopes, eroded
BnC	Bradyville-Urban land complex, 2 to 10 percent slopes
BrB2	Braxton silt loam, 2 to 5 percent slopes, eroded
BrC2	Braxton silt loam, 5 to 12 percent slopes, eroded
BxD3	Braxton silty clay loam, 12 to 20 percent slopes, severely eroded
CaA	Capshaw silt loam, 0 to 2 percent slopes
CaB	Capshaw silt loam, 2 to 5 percent slopes
CoB	Colbert silt loam, 1 to 5 percent slopes
CoC2	Colbert silt loam, 5 to 12 percent slopes, eroded
DeC	Dellrose gravelly silt loam, 5 to 12 percent slopes
DeD	Dellrose gravelly silt loam, 12 to 20 percent slopes
DeE	Dellrose gravelly silt loam, 20 to 45 percent slopes
Ea	Eagleville silt clay loam, frequently flooded
Eg	Egam silt loam, frequently flooded
GdC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst
Go	Godwin silt loam, frequently flooded
HaA	Harpeth silt loam, 0 to 2 percent slopes
HaB	Harpeth silt loam, 2 to 5 percent slopes
HaC2	Harpeth silt loam, 5 to 12 percent slopes, eroded
HhC	Hawthorne gravelly silt loam, 5 to 15 percent slopes
HhE	Hawthorne gravelly silt loam, 15 to 45 percent slopes
HwC	Hillwood gravelly silt loam, 5 to 12 percent slopes
LoA	Lomond silt loam, 0 to 2 percent slopes
LoB	Lomond silt loam, 2 to 5 percent slopes
Ly	Lynnville silt loam, frequently flooded
Me	Melvin silt loam, frequently flooded
MmB2	Mimosa silt loam, 2 to 5 percent slopes, eroded
MmC2	Mimosa silt loam, 5 to 12 percent slopes, eroded
MmD2	Mimosa silt loam, 12 to 20 percent slopes, eroded
MmE	Mimosa silt loam, 20 to 35 percent slopes
MnC2	Mimosa-Ashwood complex, 5 to 15 percent slopes, eroded
MnE	Mimosa-Ashwood complex, 15 to 45 percent slopes
MoC	Mimosa-Urban land complex, 2 to 15 percent slopes
MtB	Mountview silt loam, 2 to 5 percent slopes
MtC2	Mountview silt loam, 5 to 12 percent slopes, eroded
NeA	Nesbitt silt loam, 0 to 2 percent slopes
NeB	Nesbitt silt loam, 2 to 5 percent slopes
NeC2	Nesbitt silt loam, 5 to 10 percent slopes, eroded
NoC	Noah gravelly silt loam, 5 to 15 percent slopes
NoE	Noah gravelly silt loam, 15 to 45 percent slopes
Pd	Pits-Dumps complex
TaB2	Talbott silt loam, 2 to 5 percent slopes, eroded
TaC2	Talbott silt loam, 5 to 12 percent slopes, eroded
TrC	Talbott-Rock outcrop complex, 2 to 15 percent slopes
Tu	Tupelo silt loam, occasionally flooded
Ur	Urban land
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

County or parish

Field sheet matchline & neatline

AD HOC BOUNDARY
(label)

Cemetery

ROAD EMBLEM & DESIGNATIONS

Interstate (173)

Federal (287)

State (52)

RAILROAD (label only)

DAMS

Medium or Small
(Named where applicable)

PITS

Mine or quarry

WATER FEATURES

DRAINAGE

Perennial, double line

Perennial, single line

Intermittent

Drainage end

MISCELLANEOUS WATER FEATURES

Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (GdC, TrC)

ESCARPMENTS

Bedrock (points down slope)

SINKHOLE

SOIL SAMPLE (Typical pedon)

MISCELLANEOUS

Rock outcrop (includes sandstone and shale)

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
CHAPEL HILL QUADRANGLE
SHEET NUMBER 1 OF 18

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Dept. of Interior, Geological Survey, from 1992 aerial photography. Hydrography and culture information created by NRCS. Soils data were derived from SSURGO.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3	1 BETHESDA
4		5	2 COLLEGE GROVE
6	7	8	3 ROCKVALE
			4 RALLY HILL
			5 ROVER
			6 VERONA
			7 FARMINGTON
			8 UNIONVILLE

INDEX TO ADJOINING 7.5 MAPS

CHAPEL HILL, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 1 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
ROVER QUADRANGLE
SHEET NUMBER 2 OF 18

86°37'30" 86°35'00" 86°32'30" 86°30'00"

35°45'00" 35°42'30" 35°40'00" 35°37'30"

3956 3954 3953000mN 3952 3951 3950 3949 3948 3947 3946 3945 3944 3943000mN

534000mE 535 536 537 538 539 540 541 542 543 544000mE 545

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3	1 COLLEGE GROVE 2 ROCKVALE 3 MURFREESBORO 4 CHAPEL HILL 5 FOSTERVILLE 6 FARMINGTON 7 UNIONVILLE 8 DEASON
4		5	
6	7	8	

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ROVER, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 2 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
FOSTERVILLE QUADRANGLE
SHEET NUMBER 3 OF 18

86°30′00″ 86°27′30″ 86°25′00″ 86°22′30″
35°45′00″ 35°42′30″ 35°40′00″ 35°37′30″
546000mE 547 548 549 550 551 552 553 554 555 556000mE
3956 3954 3953000mN 3952 3951 3950 3949 3948 3947 3946 3945 3944 3943000mN

RUTHERFORD COUNTY

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

KILOMETERS 1 0 1

FEET 1000 0 1000 2000 3000 4000 5000 6000 7000

MILES 1 0 1

1	2	3	1 ROCKVALE 2 MURFREESBORO 3 DILLTON
4		5	4 ROVER 5 WEBBS JUNGLE 6 UNIONVILLE
6	7	8	7 DEASON 8 WARTRACE

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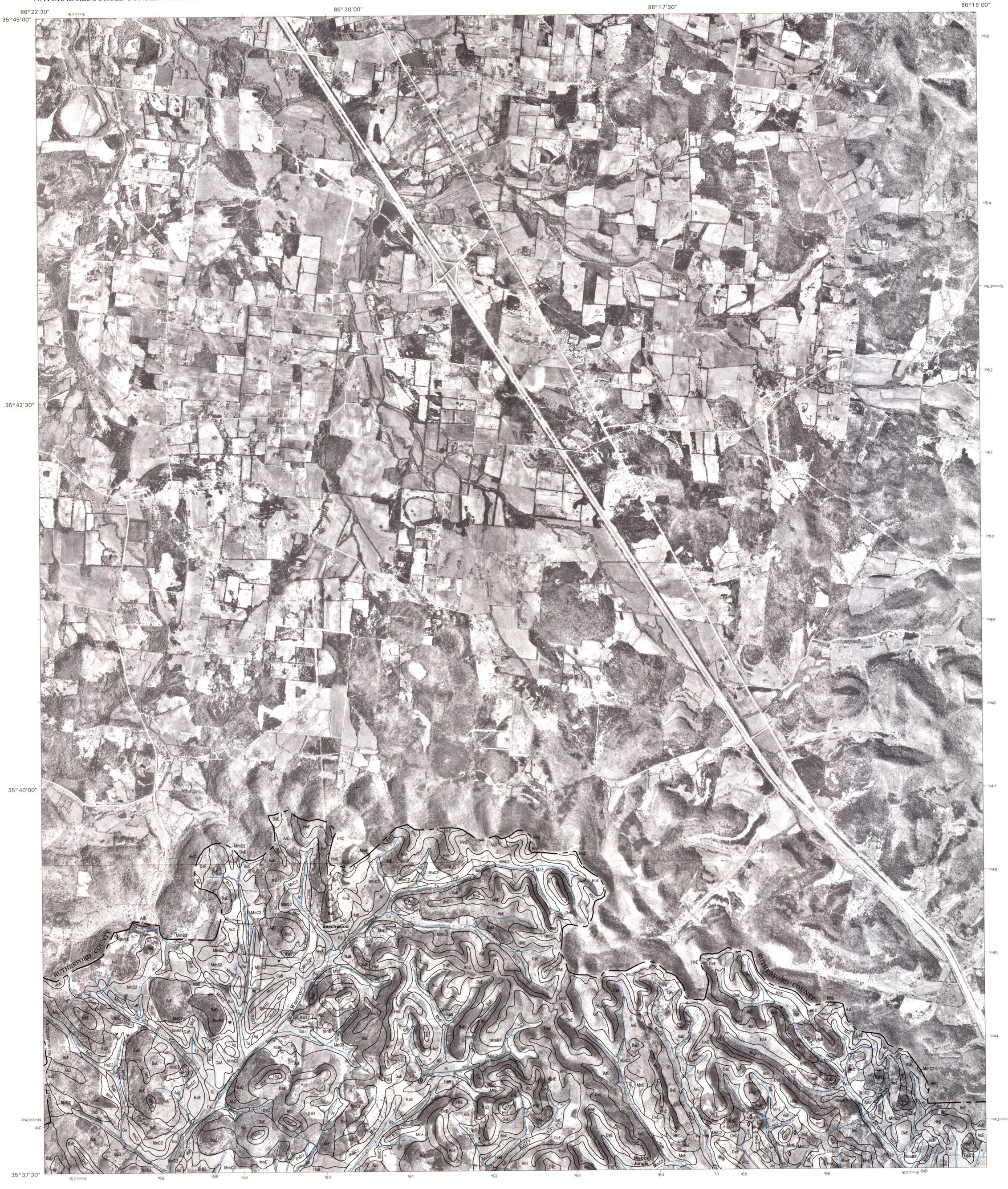
FOSTERVILLE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 3 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
WEBBS JUNGLE QUADRANGLE
SHEET NUMBER 4 OF 18



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 MURFREESBORO
2 DILLTON
3 READYVILLE
4 FOSTERVILLE
5 BEECHGROVE
6 DEASON
7 WARTRACE
8 NOAH

INDEX TO ADJOINING 7.5 MAPS

WEBBS JUNGLE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 4 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 DILLTON
2 READYVILLE
3 WOODBURY
4 WEBBS JUNGLE
5 HOLLOW SPRINGS
6 WARTRACE
7 NOAH
8 FREDONIA

INDEX TO ADJOINING 7.5 MAPS

BEECHGROVE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
FARMINGTON QUADRANGLE
SHEET NUMBER 6 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3	1 RALLY HILL 2 CHAPEL HILL 3 ROVER
4		5	4 VERONA 5 UNIONVILLE
6	7	8	6 LEWISBURG 7 BELFAST 8 BEDFORD

INDEX TO ADJOINING 7.5 MAPS

FARMINGTON, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
UNIONVILLE QUADRANGLE
SHEET NUMBER 7 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 CHAPEL HILL
2 ROVER
3 FOSTERVILLE
4 FARMINGTON
5 DEASON
6 BELFAST
7 BEDFORD
8 SHELBYVILLE

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UNIONVILLE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 7 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
DEASON QUADRANGLE
SHEET NUMBER 8 OF 18

86°30'00" 86°27'30" 86°25'00" 86°22'30"
35°37'30" 35°35'00" 35°32'30" 35°30'00"
546000mE 547 548 549 550 551 552 553 554 555 556000mE
3942 3940 3939000mN 3938 3937 3936 3935 3934 3933 3932 3931 3930 3929000mN

Deason
SHELBYVILLE
Horse Mtn
Mt Moriah
TENNESSEE VALLEY DIVIDE
RUTHERFORD CO
North Fork Duck River
Bell Ford Creek
Hurricane Creek
Little Hurricane Creek
Corn Creek
Parch Creek
Roll Creek
Hutton Creek
Cooper Branch
Butler Branch
Duck River

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 ROVER
2 FOSTERVILLE
3 WEBBS JUNGLE
4 UNIONVILLE
5 WARTRACE
6 BEDFORD
7 SHELBYVILLE
8 NORMANDY

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DEASON, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 8 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
WARTRACE QUADRANGLE
SHEET NUMBER 9 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 FOSTERVILLE
2 WEBBS JUNGLE
3 BEECHGROVE
4 DEASON
5 NOAH
6 SHELBYVILLE
7 NORMANDY
8 NORMANDY LAKE

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WARTRACE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 9 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
NOAH QUADRANGLE
SHEET NUMBER 10 OF 18

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Dept. of Interior, Geological Survey, from 1992 aerial photography. Hydrography and culture information created by NRCS. Soils data were derived from SSURGO.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 WEBBS JUNGLE
2 BEECHGROVE
3 HOLLOW SPRINGS
4 WARTRACE
5 FREDONIA
6 NORMANDY
7 NORMANDY LAKE
8 MANCHESTER

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NOAH, TENNESSEE
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
BELFAST QUADRANGLE
SHEET NUMBER 11 OF 18

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Dept. of Interior, Geological Survey, from 1992 aerial photography. Hydrography and culture information created by NRCS. Soils data were derived from SSURGO.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 VERONA
2 FARMINGTON
3 UNIONVILLE
4 LEWISBURG
5 BEDFORD
6 CORNERSVILLE
7 PETERSBURG
8 BELLEVILLE

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BELFAST, TENNESSEE
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SHEET NUMBER 11 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
BEDFORD QUADRANGLE
SHEET NUMBER 12 OF 18

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Dept. of Interior, Geological Survey, from 1992 aerial photography. Hydrography and culture information created by NRCS. Soils data were derived from SSURGO.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3	1 FARMINGTON 2 UNIONVILLE 3 DEASON
4		5	4 BELFAST 5 SHELBYVILLE 6 PETERSBURG
6	7	8	7 BELLEVILLE 8 LYNCHBURG WEST

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BEDFORD, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 12 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
SHELBYVILLE QUADRANGLE
SHEET NUMBER 13 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1 KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 MILES

1	2	3
4		5
6	7	8

1 UNIONVILLE
2 DEASON
3 WARTRACE
4 BEDFORD
5 NORMANDY
6 BELLEVILLE
7 LYNCHBURG WEST
8 LYNCHBURG EAST

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SHELBYVILLE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
NORMANDY QUADRANGLE
SHEET NUMBER 14 OF 18

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Dept. of Interior, Geological Survey, from 1992 aerial photography. Hydrography and culture information created by NRCS. Soils data were derived from SSURGO.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

KILOMETERS

FEET

MILES

1	2	3
4		5
6	7	8

1 DEASON
2 WARTRACE
3 NOAH
4 SHELBYVILLE
5 NORMANDY LAKE
6 LYNCHBURG WEST
7 LYNCHBURG EAST
8 TULLAHOMA

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NORMANDY, TENNESSEE
7.5 MINUTE SERIES
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
NORMANDY LAKE QUADRANGLE
SHEET NUMBER 15 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 WARTRACE
2 NOAH
3 FREDONIA
4 NORMANDY
5 MANCHESTER
6 LYNCHBURG EAST
7 TULLAHOMA
8 CAPITOL HILL

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NORMANDY LAKE, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
BELLEVILLE QUADRANGLE
SHEET NUMBER 16 OF 18

86°37′30″ 86°35′00″ 86°32′30″ 86°30′00″
35°22′30″
35°20′00″
35°17′30″
35°15′00″
4 391 000mN
3 910 9 3 908 3 907 3 906 3 905 3 904 3 903 3 902 3 901 000mN
1 635 000mE 1 636 1 637 1 638 1 639 1 640 1 641 1 642 1 643 1 644 1 645 000mE

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 BELFAST
2 BEDFORD
3 SHELBYVILLE
4 PETERSBURG
5 LYNCHBURG WEST
6 BOONSHILL
7 FAYETTEVILLE
8 MULBERRY

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BELLEVILLE, TENNESSEE
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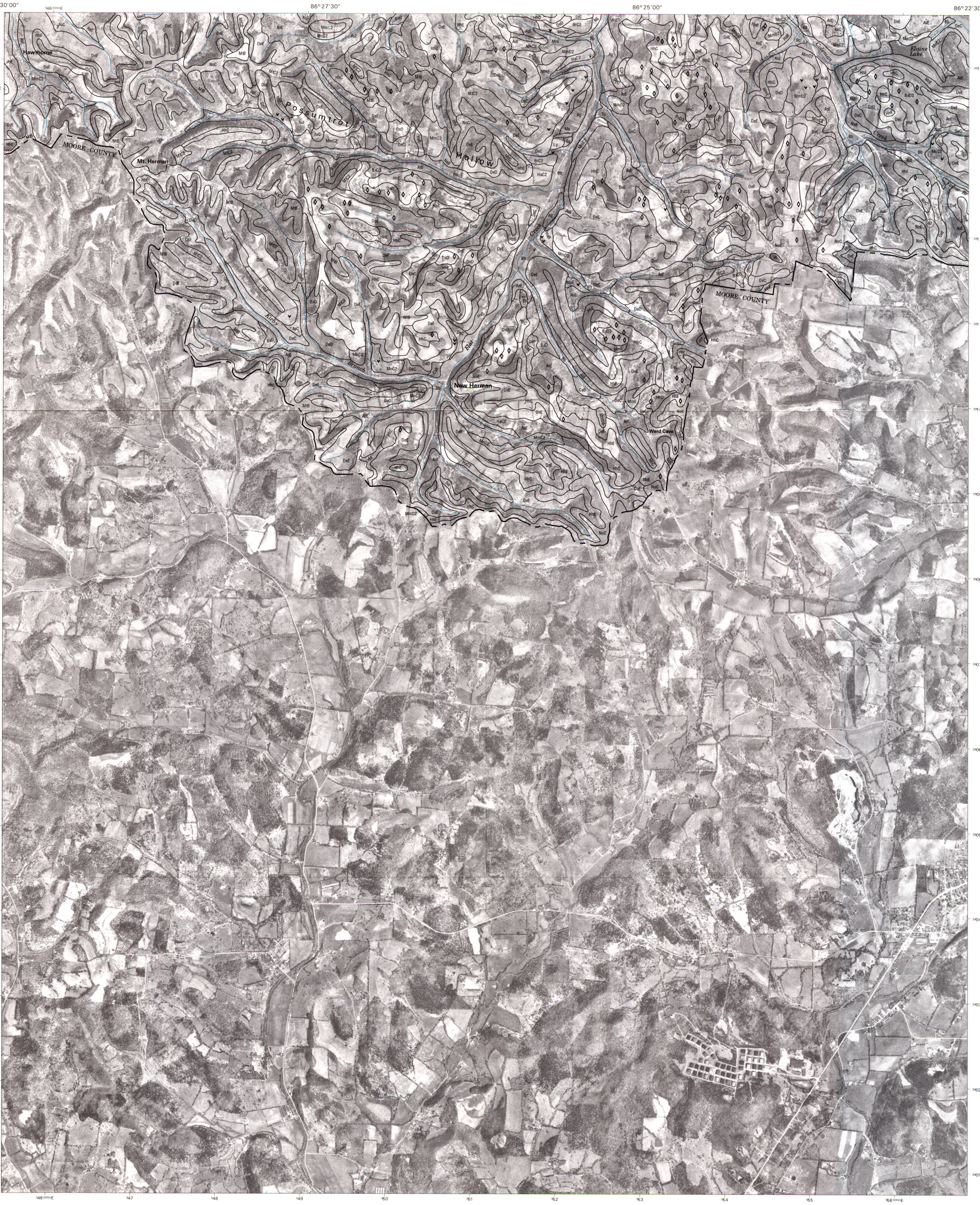
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
LYNCHBURG WEST QUADRANGLE
SHEET NUMBER 17 OF 18



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3
4		5
6	7	8

1 BEDFORD
2 SHELBYVILLE
3 NORMANDY
4 BELLEVILLE
5 LYNCHBURG EAST
6 FAYETTEVILLE
7 MULBERRY
8 LOIS

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LYNCHBURG WEST, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 17 OF 18

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

BEDFORD COUNTY, TENNESSEE
LYNCHBURG EAST QUADRANGLE
SHEET NUMBER 18 OF 18

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
KILOMETERS

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
MILES

1	2	3	1 SHELBYVILLE 2 NORMANDY 3 NORMANDY LAKE 4 LYNCHBURG WEST 5 TULLAHOMA 6 MULBERRY 7 LOIS 8 BELVIDERE
4		5	
6	7	8	

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LYNCHBURG EAST, TENNESSEE
7.5 MINUTE SERIES
SHEET NUMBER 18 OF 18